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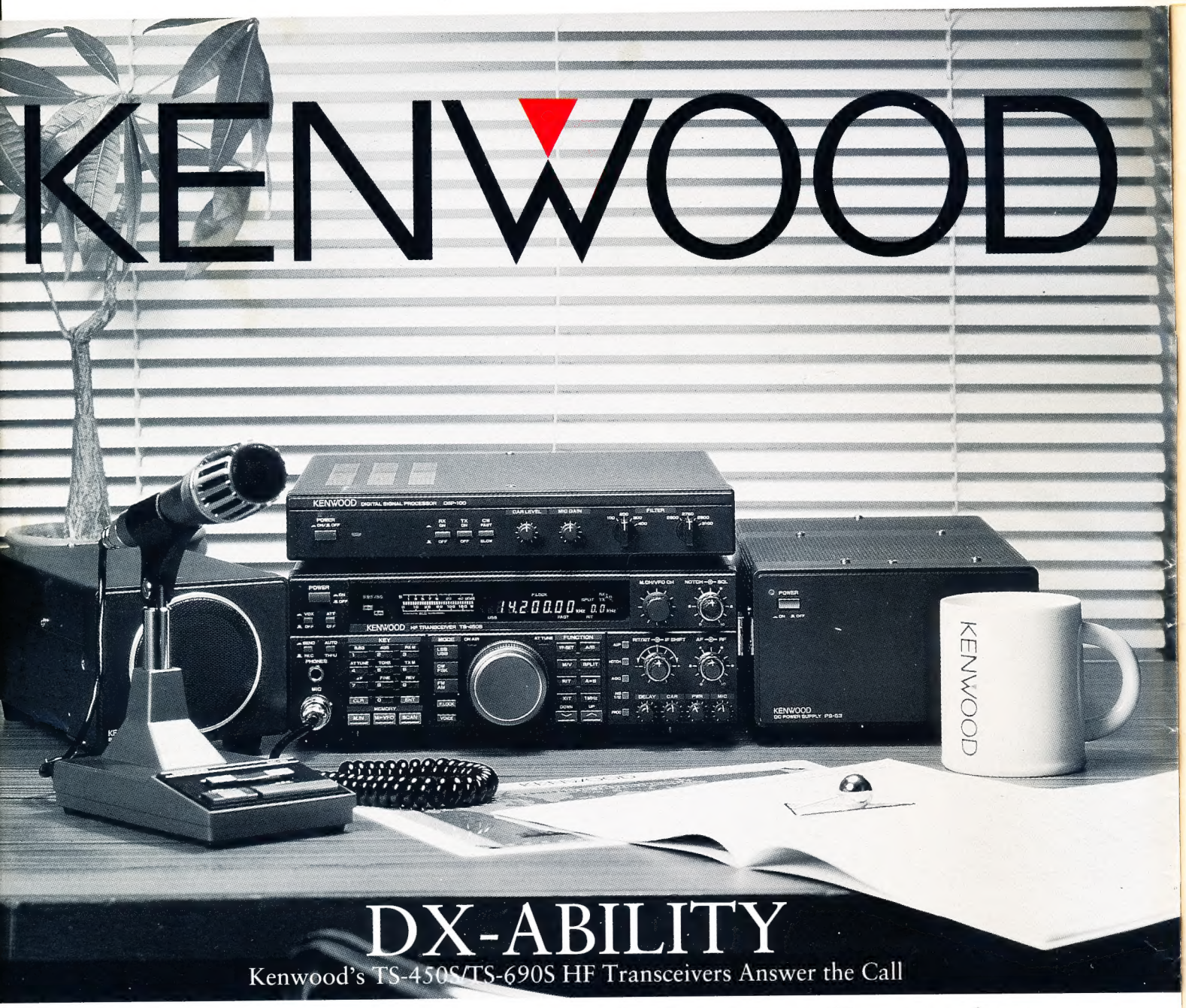

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AMATEUR RADIO

THE WIA RADIO AMATEUR'S JOURNAL

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Cover

DISNEY "HAMS" — Beloved Disney characters Mickey Mouse and Goofy get ready for the Disney Amateur Radio Special Event commemorating the opening of the Euro Disney Resort in France. The radio clubs at Disneyland, Walt Disney World, Tokyo Disneyland and the Queen Mary and Spruce Goose Entertainment Centre will be joined by the Paris-based Radio Club de St Maur from 0000 on 4 April to 2400 on 5 April in celebration of the 12 April opening of Euro Disney. For full story see page 17. Photo by courtesy The Walt Disney Co.

EDITOR'S COMMENT

BILL RICE VK3ABP EXECUTIVE EDITOR

Magazine Statistics

About a year ago, a subcommittee comprising four members of the Publications Committee prepared a report on the amount of space which should on average be given in AR to the various columnists, general interest and technical authors. The report was based on extensive interviews with amateur colleagues and fellow members of a number of radio clubs. From this was produced a set of guidelines as to how many pages (or fraction of a page) should appear on each topic in an average issue.

Graham VK3IY has taken this a stage further, and produced a set of statistics for the issues from January to November 1991. In the form of histograms, one sheet shows the number of magazine pages used each month in the four categories Technical, General Interest, Columns and Advertising. Another two sheets show, month by month, the number of pages used by each column or category of article or item.

Summing up the first sheet for the whole 11 months, we find that Technical absorbed 143 pages, General Interest 55, Columns 219 and Advertising 70 pages. As percentages of the total 487 pages, these work out to 29.4, 11.3, 45.0 and 14.4 respectively.

From the second set of histograms, it appears that most categories averaged fairly close to their specified guideline size over the full period. Awards, for example, exceeded its guideline of one page in three issues, but was well under this in three other issues. Categories which regularly exceeded their guidelines were Contests, How's DX and AMSAT (but note that a different AMSAT columnist took over in October, and column size has diminished). Guidelines were not specified for some categories, eg WARC news, WICEN or Education.

What does all this mean? To me, it means that over all we are managing to produce a reasonably balanced mixture of material for you to read. If there is any readjustment needed, perhaps we should try to increase the Technical component at the cost of columnists' space. But which columns? Ultimately, it's all up to you, our readers, to let us know if you would like to see any changes.

On a different note, we have received a letter from Paul, a VK6 who is not otherwise identified, commenting on my January editorial. Normally, anonymous contributions are ignored, but in this case there are good reasons why the writer does not want to be revealed. He represents a category at which I hinted with the words "many people are not even fortunate enough to have a job".

Paul has several tertiary qualifications and is obviously young and energetic. He has applied for more than 300 jobs but is still unemployed. He cannot afford a WIA sub, and has difficulty with rent, electricity, etc, not to mention food and clothing.

I am very much aware that Paul is not an isolated case. Our present national state of depression is partly due to international factors, but even so I feel that our Australian political masters (who are supposed to be our representatives!) have a great deal to answer for. How much longer must we all wait before some semblance of prosperity returns?

ar

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society — Founded 1910

Representing the Australian Amateur Radio Service — Member of the International Amateur Radio Union
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WIA NEWS

FROM THE WIA EXECUTIVE OFFICE

WIA Representing All Amateurs

During February 1992, the WIA members of the Australian government team, David Wardlaw VK3ADW and Ron Henderson VK1RH, are in Torremolinos, Spain, representing the Australian amateur radio service at the World Administrative Radio Conference, WARC 92.

Even though David and Ron are representing the whole of the Australian amateur radio service, the multi thousand dollar costs for their attendance at these vital discussions for several weeks are being paid by just 39 percent of Australian radio amateurs. Yes, that is correct! The members of the WIA, plus a small handful of non-members who have made donations to the WARC 92 fund, are paying to protect the frequencies and privileges of the **whole** Australian amateur radio service.

Think about that for a moment! And think about why that other 61% of licensed radio amateurs in Australia are not doing their bit to help protect this great leisure time activity of amateur radio!

It is not only in international affairs that the WIA represents the whole of the Australian amateur radio service. The WIA is continually dealing with the Department of Transport and Communications, negotiating for better conditions and privileges. Again, these negotiations are not just for the benefit of WIA members, but for the whole Australian amateur radio service.

As part of the vastly improved relationship between the DoTC and the WIA in the past 12 months, Bill Roper VK3ARZ, the WIA General Manager and Secretary, visited Canberra on Friday 17th January 1992. Very useful discussions were held with the Director, Licensing Operations, David Hunt, a key figure in the recently improved performance of the DoTC in relation to the amateur service. After the meeting with David and several of his staff, another meeting was held with the Director, Regulatory, Alan Jordan, where the main topic of discussion was amateur exams.

Many issues are under discussion with the DoTC at present. Here are reports on just a few.

Deregulation of Licence Conditions

As has been previously reported, the WIA has lodged a submission with the DoTC recommending a streamlining of the amateur service regulations, particularly in relation to repeaters, beacons, packet, RTTY and club stations.

The preliminary findings

WIA DIVISIONS

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually their residential State or Territory, and each Division looks after amateur radio affairs within their State.

Division	Address	Officers			Weekly News Broadcasts	1992 Fees	
VK1	ACT Division GPO Box 600 Canberra ACT 2601 Phone (06) 247 7006	President Secretary Treasurer	Christopher Davis Jan Burrell Ken Ray	VK1DO VK1BR VK1KEN	3.570MHz 2m ch 6950 Rebroadcast Mondays 8pm 70cm ch 8525 2000 hrs Sun	(F) (G) (S) (X)	$70.00 $56.00 $42.00
VK2	NSW Division 109 Wigram St Parramatta NSW (PO B ox 1066) Parramatta 2124) Phone (02) 689 2417 Fax (02) 633 1525	President Secretary Treasurer (Office hours	Roger Henley Bob Lloyd-Jones Bob Taylor Mon-Fri 1100-1400 Wed 1900-2100)	VK2ZIG VK2YEL VK2AOE	From VK2WI at 1045 and 1915 on Sunday on the following frequencies and modes: (*1045 only): 1.845 AM; 3.595 AM morning and SSB evening; 7.146 AM*; 10.125 SSB; On relay 14.160 SSB* and 21.170 SSB; 28.320 SSB; 52.120 SSB; 52.525 FM; 144.120 SSB; 147.000 FM; 438.525 FM; On relay 584.750 ATV sound; 1281.750 FM. Plus automatic relays to 2m repeaters surrounding Sydney and manuals to several country repeaters. News headlines by phone (02) 552 5188	(F) (G) (S) (X)	$66.75 $53.40 $38.75
VK3	Victorian Division 40G Victory Boulevard Ashburton Vic 3147 Phone (03) 885 9261	President Secretary Treasurer Office hours 0830-1530 Tue & Thur	Jim Linton Barry Wilton Rob Hailey	VK3PC VK3XV VK3XLZ	1.840MHz AM, 3.615 SSB, 7.085 SSB, 147.250 FM(R) Mt Macedon, 147.225 FM(R) Mt Baw Baw 146.800 FM(R) Mildura 146.700 FM (R) MT. Dandenong 438.075 FM(R) Mt St Leonard 1030 hrs on Sunday	(F) (G) (S) (X)	$72.00 $58.00 $44.00
VK4	Queensland Division GPO Box 638 Brisbane Qld 4001 Phone (07) 284 9075	President Secretary Treasurer	John Aarsse Bob Lees Eric Fittock	VK4QA VK4ER VK4NEF	1.825, 3.605, 7.118, 10.135, 14.342, 18.132, 21.175, 24.970, 28.400, MHz 52.525 regional 2m repeaters and 1296. 100 0900 hrs Sunday Repeated on 3.605 & 147.150MHz, 1930 Monday	(F) (G) (S) (X)	$70.00 $56.00 $42.00
VK5	South Australian Division 34 West Thebarton Rd Thebarton SA 5031 (GPO Box 1234 Adelaide SA 5001) Phone (08) 352 3428	President Secretary Treasurer	Rowland Bruce John McKellar Bill Wardrop	VK5OU VK5BJM VK5AWM	1820kHz 3.550MHz, 7.095, 14.175, 28.470, 53.100, 145.000, 147.000 FM(R) Adelaide, 146.700 FM(R) Mid North, 146.900 FM(R) South East, ATV Ch 34 579.000 Adelaide, ATV 444.250 Mid North Barossa Valley 146.825, 438.425 (NT) 3.555M 146.500, 0900 hrs Sunday	(F) (G) (S) (X)	$70.00 $56.00 $42.00
VK6	West Australian Division PO Box 10 West Perth WA 6005 Phone (09) 388 3888	President Secretary Treasurer	Cliff Bastin John Farnan Bruce Hedland-Thomas	VK6LZ VK6AFA VK6OO	146.700 FM(R) Perth, at 0930 hrs Sunday, relayed on 3.560, 7.075, 14.115, 14.175, 21.185, 28.345, 50.150, 438.525MHz. Country relays 3582, 147.350(R) Busselton 146.900(R) Mt William (Bunbury) 147.225(R) 147.250(R) Mt Saddleback 146.725(R) Albany 146.825(R) Mt Barker Broadcast repeated on 146.700 at 1900 hrs	(F) (G) (S) (X)	$60.75 $48.60 $32.75
VK7	Tasmanian Division 148 Derwent Ave Lindisfarne Tas 7015	President Secretary Treasurer	Tom Allen Ted Beard Peter King	VK7AL VK7EB VK7ZPK	146.700MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.750 (VK7RNW), 3.570, 7.090, 14.130, 52.100, 144.100 (Hobart) Repeated Tues 3.590 at 1930 hrs	(F) (G) (S) (X)	$67.00 $53.65 $39.00
VK8	(Northern Territory) is part of the VK5 Division and relays broadcasts from VK5 as shown (received on 14 or 28MHz).						

Note: All times are local. All frequencies MHz.

Membership Grades
Full (F) Pension (G)
Needy (G) Student (S)
Non receipt of AR (X)

Three-year membership available to (F) (G) (X) grades at fee x 3 times

response received from the DoTC is very encouraging, and is being closely examined by specialists in all areas under discussion. Included in the letter accompanying the preliminary findings were the following comments:

The proposals for change put forward by the WIA have shown a very responsible approach to the administration of the service. All those involved in the process are to be congratulated.

and:

I agree entirely with the premise from which the WIA's work commenced, that is, the Amateur Radio Service is an experimental service that should be subject to as few regulations as possible in order to encourage that experimentation. In this regard, the WIA has a very important role to play in administering the service.

Although negotiations are still at an early stage for such a revolutionary proposal of change to the amateur service regulations, the WIA is confident that the outcome will be what Australian amateurs want, particularly for the special interest groups who feel that the current regulations bureaucratically and unnecessarily hinder development of their particular interest in amateur radio.

Code Free Novice Licence

As previously reported, the WIA lodged a submission with the DoTC in September 1991 asking for the introduction of a "code-free" Novice licence. This proposal has been WIA policy for some time, and seeks a new "entry level" grade of licence where the requirements are Novice level theory and regulations only.

Discussions with the DoTC reveal that this proposal is proceeding on course, and the WIA expects a decision by the middle of 1992.

Incidentally, it is interesting to note that one of the difficulties being faced in the possible introduction of this new grade of licence is what callsign block to allocate to it. The VK? prefix callsigns with AA to ZZZ suffixes are steadily running out, and there does not seem to be room for a suffix block for a new licence grade. Does this mean a prefix other than VK?

Modifications to Amateur Equipment

There has been a lot of discussion recently about modification of amateur transceivers for use in other services, such as marine and land mobile. Several qualified people have expressed their concern to the WIA about the fact that modified amateur equipment being used in other services could endanger lives.

There are obvious pitfalls when using amateur equipment in other services in that it is not purpose designed for, say, marine use. Also, the confusing complexity of controls when used by a non-amateur in an emergency, can be life threatening.

Because of the continuing complaints being received, the WIA recently asked the DoTC for clarification of the legal implications of such modifications and use. The reply received from the Director, Licensing Operations, David Hunt, states:-

The operation of radiocommunications equipment for services operating on frequencies outside the Amateur bands is generally covered by Ministerial standards made under the Radiocommunications Act and by equipment specifications authorised by the Department.

As a condition of all licences (for non-amateur services) it is a requirement that any equipment meet the appropriate Ministerial standard or equipment specification for the service and frequency band concerned.

Under the current provisions of the Radiocommunications Act, in respect of Ministerial standards, where any standard is in place, it is an offence to use equipment that does not meet the requirements of the standard. For example, there are Ministerial standards for land Mobile and CBRS equipment, if the amateur equipment were to be used for providing these services then a breach of the Act would occur.

If unapproved equipment is used in any licensed service, amateur service excepted, the licensee of the service would be liable to a breach of licence conditions, for which substantial penalties apply. Essentially the provisions of the Act relate to the use of approved equipment, and in cases where unapproved equipment is used, the licensee or user of the equipment could be liable to regulatory action by the Department. There are provisions in the legislation which also address the situation where equipment conforming to a Ministerial standard is modified.

The Department takes a serious view of modifications to equipment. If people choose to modify equipment, then they should check with the Department first to ensure that the modification will not cause a departure from the approved technical criteria for the service in which the equipment is to be used.

There it is. Be warned! The use of modified amateur transceivers in other communications services could not only be possibly life-threatening under certain circumstances, but is also illegal!

Going Overseas?

Some WIA members, when seeking a reciprocal licence in another country, have encountered problems with the other country's administration because the Australian licence certificates and licence renewals are generated by computer and so are not signed by an issuing officer.

After representations by the WIA, the DoTC has now advised that any amateur wishing to go overseas may make an appointment with the staff at any DoTC State or District office, and the authorised staff will be happy to endorse the original copy of any licence certificate or current licence renewal notice.

Special Event Callsigns

As has previously been reported, any group or individual may apply to the DoTC for use of the "VI" prefix as part of a special event callsign for occasions of special state or local significance. The DoTC will determine, in conjunction with the applicant, whether the occasion warrants the use of such a special callsign.

Recently, an incident occurred where the applicant for a special event callsign wanted to use three numerals in the callsign, and wanted the callsign immediately. The WIA Executive Office was asked to intercede, which it did successfully, but this prompted the need to further clarify the rules governing special event callsigns. The response from the DoTC Director, Licensing Operations, is as follows:

The Department is able to issue special callsigns for use by amateur special event stations with minimal delay and at no extra cost provided the callsign meets the standard template incorporated within the International radio regulations. The regulations define the amateur callsign allocation as follows:

(1) one character and a single digit followed by a group of not more than three letters, or

(2) two characters and a single digit followed by a group of not more than three letters.

For Australia the allotted call sign blocks conform to (2) above.

ie xx0A - xx9Z
xx0AA - xx9ZZ
xx0AAA - xx9ZZZ
xx = VK; VI and AX

Where the proposed callsign is outside the above convention, it is necessary for the Department to seek the approval of the International Frequency Registration Board

of the ITU. This can take a considerable time. I am conscious of a number of precedents that have been set in the past but we do need to consult with the IFRB before any decision is made. In these cases it would be wise if applicants for special callsigns (not fitting the approved blocks) provide 12 months notice of their requirements.

There it is. If you are contemplating applying for a special event callsign, and you want a special callsign that does not fit the standard callsign template, you must make application to the DoTC preferably 12 months before the event.

On-Frequency Repeaters

Amateur radio is breaking new ground all the time with new methods for improving communication. That is the way it should be, but often these advances are not covered in the amateur service regulations.

One such case recently is the use of on-frequency repeaters for the electronic storing and forwarding of messages on the same radio frequency. When the DoTC approached the WIA about the use of on-frequency repeaters, the matter was referred to the WIA Federal Technical Advisory Committee (FTAC).

John Martin VK3ZJC, the Chairman of FTAC, promptly provided a set of recommendations, and these were submitted to the DoTC. The Director, Licensing Operations from DoTC in Canberra recently responded, endorsing the WIA recommendations as follows:

Attended operation

1. Where the on-frequency repeater forms part of a normal amateur station, it must be operated in accordance with the licence conditions for that station, including the need for the licensed operator of the station to be present and correctly identify all transmissions.

Unattended operation

2. Where it is intended to operate any on-frequency repeater in the unattended mode, it should be operated in accordance with the licence conditions of the Amateur service covering non-attended operation. A separate repeater station licence will be necessary.

The operation of on-frequency repeater stations for the purposes of electronically storing and forwarding of messages should be consistent with the licensing and band planning arrangements for repeater stations in the Amateur service.

Why Hasn't My Article Been Printed?

As has previously been stated, the supply of articles for Amateur Radio magazine varies from month to month in type, quality and quantity. Editorial policy overall is to present a balance of technical and general interest articles, in the approximate order in which they have arrived, and still have room for the regular columnists. This may be modified when the actual setting out of the proofs occurs - a longer article may have to be held over, or a short one taken out of order to fill a space.

A good cover photo may be held over until space can be allocated to the accompanying story. In addition, delays may occur if the article requires artwork or extensive editing of the language used.

If you have submitted an article some time back and it has not appeared yet, please be patient. You have not been forgotten.

Meeting of Federal Council

The now familiar quarterly "mini Convention" joint meeting of Federal Councillors from all Divisions, plus all Executive members, took place at the Federal Office over the weekend of 8th - 9th February 1992. As well as a full agenda of items for discussion, arrangements had been made for an extensive informal debate about the future of the WIA to occupy most of the Saturday afternoon.

Saturday morning was mostly spent on routine financial performance reports, accounts for payment, membership statistics, correspondence, outstanding Council motions, etc. It was noted that for the first time in many years, if ever, the total number of amateur licensees in Australia appears to have decreased over a one year period (from June 1990 to June 1991). The latest figures, to 31st December, give a total of 18372 (including repeaters), but over the past six months DoTC has changed the basis for their statistics by removing licences temporarily suspended or inactive.

SWOT Analysis

The acronym stands for Strengths, Weaknesses, Opportunities and Threats. Extensive discussion (perhaps "brainstorm" would be a better word) allowed the 17 attendees to consider how a range of topics applied to the WIA and possible actions on each.

The discussion leader ("facilitator"), a business colleague of the Federal President, had no prior knowledge of amateur radio, but has professional experience in marketing for a large business organisation. Some time was needed to "familiarise the facilitator" with the complexities of our multi-tiered structure (Federal, Divisions, affiliated clubs) and our unique capability for rapid intercommunication between individual members.

Members Perceptions

A number of interesting "conclusions" arose from the SWOT session. Although amateurs share certificate and licence requirements, in many respects the average amateur is a "loner", having little need for team work. But, because of the complexity of the regulatory structure, a management body is necessary. Inevitably, this body serves the interests of non-members as well as members in many of its activities, but the infrastructure provided appears largely "invisible" to the non-members, who see little point in supporting the WIA when they have access to benefits such as international representation and liaison with DoTC without being members.

Essentially the WIA was seen as "selling insurance" against loss of amateur frequencies. When there is little threat in this area, there is little incentive to pay a premium for it. We have "done our job too well", the danger is past, the infrastructure is free to all, so our numbers are falling. Is this bad?

We must balance the need for a membership proportion high enough to be representative with the relative costs of recruiting new members or spending more on existing members. The WIA, with about 37 percent of VK licensees, still compares favourably with the ARRL (22%) and JARL (16%), the two countries highest in amateur populations. It was agreed eventually that increased membership was desirable, but only if it could be achieved cost-effectively.

WIA Structure

The future role of the WIA and possible re-organisation was discussed. Some competition (rivalry? power struggle?) between Divisions and Federal (some Divisions more than others) and between Divisions is long-standing. The word "paranoid" was heard at one stage. The local responsibilities of Divisions versus the national and international scope of Federal activities, were pointed out.

A need for some re-structuring, including a review of the Articles of Association, was identified. Should the WIA set itself up as an exclusive club with a long waiting list for membership, so that those able to afford it would be "breaking their necks to get in"? This idea seemed to have only little support! However, in any case, the benefits of membership should be obvious to potential members. Here the local clubs are often more obvious than the amor-

phous "behind the scenes" WIA, which no longer even holds Divisional meetings in VK2, 3 and 4.

Membership

Figures show that many new licensees join the WIA for a year or two and then "drop out". This may be due to temporary pressure of other interests, with later rejoining, but there is need to examine this trend. Some such resignees have been persuaded to rejoin.

Availability of services

Some Divisions provide more services than others, depending on their resources available. Federal Office receives many enquiries from people who cannot reach their Division by telephone. The topic of "customer service" was debated for at least an hour. The seven autonomous Divisions and Federal all had different views of the issues and their degrees of satisfaction. Since the WIA is funded by its members is it therefore obliged to provide a service to them? Service to country members was queried. Divisions denied that these members received less service than city members.

Publicity

It was agreed that the WIA needs to do more to "raise its profile" to all amateurs, not just members. Some suggestions were:

* for WIA sponsored repeaters, a voice ident naming the WIA;
* an 008 prefix phone number to a WIA central office;
* employment of a professional marketing consultant;
* extension of publicity displays at radio stores, DoTC offices etc (this is already being implemented widely in VK4);
* extension of the present "low key" WIA publicity via the WIA Exam Service;
* a marketing message on the blank side of WIA letters;
* corporate sponsorship.

Some Divisions already use some of these measures. Some, eg the 008 number or the Exam Service, were thought to be possible sources of misunderstanding. Most were in favour of reducing the services available to non-members, but this could also introduce problems.

Other Meeting Agenda Items

Ron Wilkinson Award

Each February Federal Executive decides the recipient of the Ron Wilkinson Achievement Award for notable achievement in any field of amateur radio. The winner this year is Maggie Iaquinto, VK3CFI, for her highly successful assistance to and packet communications with the Russian spacecraft MIR, and her involvement of her high school students. The two other nominees Joe Nevin, VK6ZTN (for work with packet repeaters) and Len Vermeulen, VK3COD, (for long service in providing Morse practice transmissions) were both awarded the President's Commendation.

As has been foreshadowed for over a year, the appointment of a full-time paid editor is under consideration. At the October 1991 meeting Roger Harrison, VK2ZTB, was asked to report to Executive on the practicalities of possible schemes. Roger, who has considerable experience in this area, provided a verbal report noting that suitable people for the job are very few, and that the salary level is considerably more than the present editorial and typesetting costs.

Current policy and implementation by Federal Office in recruiting new members was discussed.

A report on WICEN presented by the Federal WICEN Co-ordinator, highlighted the differences in organisation from Division to Division and the need for a better emergency channel in the 80 metre band. The present 3600 kHz frequency suffers badly from interference from home stations who may be unaware that a WICEN station is trying to use the channel.

General Business included a motion of appreciation and commendation by VK1, endorsed by VK4, to the General Manager and staff for the introduction and quality of materials of the WIA examination service. This caused some discussion and comparison between Divisional Councillors as to how each state is handling the new system.

Highlights only have been presented in this report. To cover the whole 15 hours or so of meeting time in full detail would probably require more than a full issue of Amateur Radio magazine. However, it is hoped that the report gives some idea of what was involved in a very busy and tiring weekend.

International Reply Coupons

Several members have at times complained about lack of information on the purchase or redemption of IRCs at their local Post Office.

We have been able to clarify this situation by reference to the Australia Post "International Post" Guide booklet, the latest edition of which became effective from 1st January 1992.

I quote the relevant paragraph, so that amateurs encountering problems can refer the postal staff to section 10.23 in their own handbook.

10.23 INTERNATIONAL REPLY COUPONS

International reply coupons are a means by which the sender of a letter overseas can ensure that the addressee does not have to pay the postage on the replying letter. International Reply coupons may be sent to all countries.

The sender encloses the Reply Coupon with his letter. One coupon is exchangeable at any Post Office of the other country, for one or more postage stamps, representing the minimum postage prepayable on an unregistered letter sent abroad by Air Mail to the most distant zone from that country.

In countries whose regulations so permit, Reply Coupons may also be exchanged for postal stationery.

People receiving International Reply Coupons from abroad may exchange them for postage stamps or postal stationery at any Australian Post Office. A stamp or stamps equal in value to the postage, assessed at the Zone 5 rate (see the Postal Charges booklet), payable on a letter lodged for Air Mail carriage will be issued for each International Reply Coupon present for exchange."

According to the Postal Charges booklet, effective January 1992, page 30, the cost of the IRCs is $1.35 each.

So there it is. If you have any hassles at your local post office with IRCs, you can now assist the post office clerk by directing them to their own reference manual.

Thanks are due to Brenda Edmonds VK3KT and Bill Rice VK3ABP for their assistance in compiling WIANEWS for this month.

Bill Roper VK3ARZ

ar

BACK ISSUES

of AR available to WIA members

10 randomly selected back-issues of our choice, between Jan 1969 to Dec 1987, available for $17.50

Price includes postage.

AR back issues PO Box 300 Caulfield South Vic. 3162

WIA Videotape Library

The annual listing of the WIA Videotape library was published on page 31 of the February 1992 issue of Amateur Radio magazine. Unfortunately, the details of how to use the libray were accidentally omitted from that issue of the magazine. Please read the information below in conjunction with the videotape listing in last month's edition of Amateur Radio.

Now every radio club can provide its member with quality technical lectures on subjects covering the whole range of Amateur Radio activities by taking advantage of the WIA Federal Videotape Library. You'll find this a boon particularly if yours is a country club which often has difficulty obtaining a variety of expert lecturers for its regular meetings. (Individual Amateurs and Librarians should take note of the duplication fees at the end of this article.)

For radio clubs affiliated with the WIA it's inexpensive and easy. Here's how it works. For those titles which the WIA has placed in the public domain, all you have to do is supply the WIA Video Co-ordinator (address above) with...

- a list of requested titles,
- a blank videocassette,
- a "VCB" Postpak ,
- and enclose your address and stamps for return postage.

The program is then free for your use in the support of Amateur Radio in your area, including duplication and transmission over Amateur Television if you wish.

Those programs which are copyright are indicated by the _ symbol and are available only ON LOAN. To obtain any Loan Item supply the WIA Video Co-ordinator (address above) with...

- your requested title,
- information about your preferred VCR format,
- enclose your address and stamps for postage to you,
- and a statement signed by a responsible member of your club that "I undertake that while (program title) is assigned to me, I will not allow it to be copied or transmitted by any means whatsoever, and that I will return the same promptly after showing".

Note: the WIA does not hold a licence from the copyright owners of certain titles; therefore no loan or copy service is available for those so marked; they are held for WIA Archive purposes only.

The present "preferred VCR format" is Standard Play VHS (with "Long Play" and HiFi Sound available on request plus Betamax and Video8 cassettes). For estimation of postage, a 3 hour VHS cassette measures 200 x 100 x 30mm and weighs 350gm.

A note to individual amateurs. From the inception of the WIA Federal Video Service cassettes were freely available to all comers. However, in order to stem the rising tide of requests for copies of programs from individual amateurs (some of whom asked for over 10 hours of programs at a time) there is now a duplication fee (payable in advance) of $2 per hour or part there-of to individuals. Isolated or disadvantaged individual amateurs will however continue to receive free concession.

A note to librarians. A number of educational institutions have already availed themselves of the of the WIA technical lecture tapes. A duplication fee of $10 per hour or part thereof is payable in advance by all institutions not affiliated to the WIA.

Finally, a note regarding cassette quality. The WIA Videotape Co-ordinator reserves the right to refuse to copy onto inferior quality video tape. Video dubbing is a real-time, one-at-a-time operation and in the past low quality tape has been the cause of many lost hours due to clogged heads etc. Libel laws prevent publication of a list of manufactures of suspect tape, however most of the well known brand names are acceptable; in particular use only those tapes bearing the official "VHS" logo.

John Ingham, VK5KG, Federal Videotape Co-ordinator, 37 Second Ave Sefton Park SA 5083

ar

TRY THIS

CW Trainer

There is a rehash of a CW Trainer program for the Commodore 64 that I wrote which was published in various forms in *AR* in the '80s, which I thought some may find a refreshing change from the various on-air CW training. Having this program allows you to practise at any time that suits you.

The program, written in Commodore BASIC, generates random Morse in "word groups" from two to seven characters long. The student may choose the speed in wpm, select either letters only or letters and numbers and decide the number of characters to be sent in a "test".

While the CW is being sent, the screen blanks and, on completion of the test, the screen displays the characters for checking.

Those of you who would question whether, say, the 10wpm speed is perfect when you hear it, should alter the value 400 in line 230.

If a greater number, say 500, is used, the CW slows down; whereas if a lower number, say 350, is substituted, the CW speeds up. It may be that the BASIC in the many models of the C64 runs at different speeds, thus causing the variations reported in similar programs using this timing logic.

Neil Cornish VK2KCN, 56 Sherwin Avenue, Castle Hill 2154. (02) 634 1882

```
10 REM RANDOM MORSE 64. NEIL CORNISH VK2KCN
20 PRINT"WELCOME TO RANDOM MORSE!"
30 PRINT:PRINT"YOU MAY SELECT LETTERS ONLY, OR,"
40 PRINT"A MIXTURE OF LETTERS & NUMBERS"
50 PRINT:INPUT"ENTER L OR M";XX$
60 IFXX$<>"L"ANDXX$<>"M"THEN50
70 PRINT:PRINT"YOU MAY SELECT THE NUMBER OF CHARACTERS"
80 INPUT"TO BE SENT, ENTER A NUMBER < 250";AA
90 IFAA>250THEN80
100 XX=36:IFXX$="L"THENXX=26
110 DIMA$(XX),B$(XX),C$(100),D$(100)
120 A$="ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789"
130 FORT=1TOXX:A$(T)=MID$(A$,T,1)
140 READB$(T):NEXTT
150 PRINT:PRINT"INITIALISING - PLEASE WAIT!"
160 Q=INT(RND(0)*6)+2
170 FORT=1TOQ
180 L=INT(RND(0)*XX)+1:A=A+1
190 C$(C)=C$(C)+A$(L)
200 D$(C)=D$(C)+B$(L)+"2"
210 NEXTT:C=C+1
220 IFA<AATHEN160
230 PRINT:INPUT"ENTER SPEED IN WPM";P:P=400/P
240 PRINT:PRINT"PRESS [SHIFT] FOR CW !":WAIT653,1
250 POKE53265,PEEK(53265)AND239
260 FORT=1TOC:PRINTC$(T),:NEXTT
270 GOSUB290:POKE53265,PEEK(53265)OR16
280 FORT=STOS+24:POKET,0:NEXTT:END
290 GOSUB380:FORX=1TOC
300 FORY=1TOLEN(D$(X))
310 R=P*VAL(MID$(D$(X),Y,1)):IFR=2*PTHEN450
320 GOSUB420
330 FORZ=1TOP:NEXTZ
340 NEXTY
350 FORZ=1TO7*P:NEXTZ
360 NEXTX
370 RETURN
380 S=54272
390 POKES+5,0:POKES+6,240:POKES+1,47
400 POKES,100:POKES+3,8:POKES+2,0
410 POKES+21,200:POKES+22,50:RETURN
420 POKES+4,65:POKES+24,47
430 FORT=1TOR:NEXTT
440 POKES+4,64:RETURN
450 FORZ=1TOR:NEXTZ:GOTO340
460 DATA13,3111,3131,311,1,1131,331,1111
470 DATA11,1333,313,1311,33,31,333,1331,3313
480 DATA313,111,3,113,1113,133,3113,3133,3113
490 DATA33333,13333,11333,11133,11113
500 DATA11111,31111,33111,33311,33331
```

Two-Tone Testing with a Cheap Oscilloscope

S J Hutchinson VK2FFF 72 Brinawa St Mona Vale 2103

VK2FFF presents an idea for monitoring your RF envelope on a simple oscilloscope.

Introduction

I WAS CONTEMPLATING building a linear amplifier so I decided to assemble the gear required for two-tone audio testing. I already had a cheap 75mm oscilloscope and a heavy-duty oil-filled dummy load, so I proceeded to build the audio generator outlined in recent copies of the *ARRL Handbook*.

The oscilloscope has the limitation of a 5-6MHz bandwidth. It was bought from Jaycar in kit form and is still available from DSE in completed form. On testing, using my FT-757GX transceiver, the equipment worked well at 3.5MHz. It was difficult to tell on 7MHz if the bandwidth limitation was evident, but on the higher frequency bands severe distortion took place.

Modifications to CRO

How to solve the bandwidth problem? Friend Dave VK2IJ suggested the direct application of the two-tone modulated RF signal to the vertical deflection plates (Y plates) of the oscilloscope, bypassing the Y amplifiers.

The vertical sensitivity of the CRO was measured at 17V per cm, without amplification. The graticle covers 4.8cm, so a signal of about 80V peak-to-peak was required for a full picture. How to generate an 80V peak-to-peak balanced signal? "Test Equipment for the Radio Amateur", second edition, page 9-3, gave the answer. A sample of the transmitter RF out put is fed to a balanced tuned circuit resonant at the frequency of interest and feeding the Y plates from the high RF potential ends of the circuit.

Figure 1 shows the pick-up unit used to sample the RF output of the transmitter. A single turn loop in the centre of a wire joining the two UHF sockets is coupled to a two-turn loop which feeds the tuned circuit. Figure 2 shows the tuning unit circuit diagram. L1, the coupling winding, is specified at two turns with coupling initially adjustable, and L2 to resonate with C1 for the band required. C1 is specified as a 50pF + 50pF two-gang capacitor.

Construction

For the pick-up unit, a 120x40x65mm diecast box was used with two SO-239 sockets. The sockets were linked by a length of 12 B&S wire with a single turn loop in the centre. A two-turn coupling loop, with one end grounded to the box, was taken to a BNC socket to feed the tuning unit. (The single turn loop and resultant impedance "bump" could be avoided, if desired, by the use of a capacitance divider between the 12 B&S wire and the box). The pick-up was installed

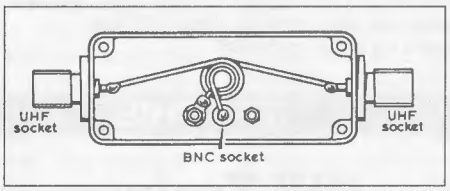


Figure 1. RF pick-up unit.

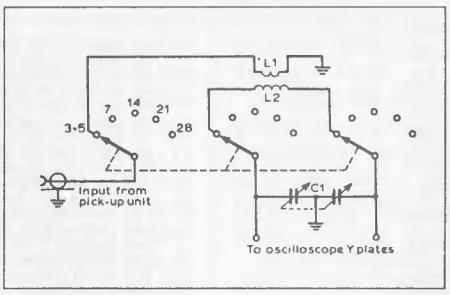


Figure 2. Tuning unit circuit diagram.

in the transceiver output feeder and produced about 0.5V peak-to-peak at 100 watts carrier output.

The junk box provided a 30pF + 30pF two-gang capacitor, a four-pole five-position wafer switch and a selection of Amidon L-43 coil forms, complete with adjustable cup cores and shield cans. A coil was wound for 3.5MHz and a "lash up" constructed. The cover was taken off the CRO and the Y plates were disconnected from the Y amplifiers and provided with one-megohm resistors for a DC path to ground. The lash up was tested and provided about 40 percent of full vertical deflection on a 100W two-tone test. The number of coupling turns (L1) was increased from two to four on the 3.5MHz coil. This gave a deflection of about 65 percent at 100 watts, which was satisfactory. At 400 watts, deflection would be about 130 percent, and the tuning capacitor (C1) could be used as a "vertical amplitude" control to bring the picture back on scale.

Some thought was given to the final placement of the pick-up unit and the tuning unit. The relationship of the tuning unit to the CRO seemed to be critical. The capacity of the leads from the tuning unit to the Y plates and the capacity of the Y plates themselves would form part of the tuned circuit. Too much capacity would degrade the L/C ratio, and lack of symmetry might cause imbalanced voltages. Fifty Hertz pick-up had to be avoided, and it should be a simple matter to return the CRO to normal use. Therefore, the tuning unit would be installed as close to the Y plates as practicable.

It was decided to place the CRO at a convenient eye-level location on the operating desk. This would require about one metre of RG-58 coaxial cable from the pick-up unit to the tuning unit. A 28MHz tuning coil was installed in the lash up, and the effect of the coax on the signal amplitude was found to be minimal.

Turning to the construction of the tuning unit, the CRO was examined and there was no room on the front panel for extra controls. Accordingly, the tuning unit would have to be external to the CRO housing and be mounted on top as close to the front as possible, provided this obeyed the criterion of close coupling to the Y plates.

The CRO cover can best be described as an inverted, square-cornered U. It was removed and a bracket of 2mm aluminium sheet, 110mm wide and 140mm deep, was fixed under the rear flange using countersunk screws. Two pairs of RCA sockets were installed on the bracket. One pair was wired to the outputs of the Y amplifier, and the other pair to the Y plates. The latter wires were quite short and direct. The cover was drilled to accommodate the four sockets and replaced. A pair of self-tapping screws through the cover and into the bracket rendered the latter rigid (Figure 3).

A 120mm x 95mm x 50mm diecast

aluminium box housed the tuning unit and was painted to match the CRO. The front of the box carried the tuning and bandswitch controls. On the rear were mounted a BNC socket for the pick-up signal, and two RCA sockets for the Y plate signals, directly in line with the matching sockets on the CRO cover.

The sockets and controls were installed, and coils were mounted on a piece of Veroboard and wired to the switch. The coils were wound with 7x0.05mm Litz wire which was to hand. However, it was soon found that adequate deflection could be achieved very readily and was a function of the number of coupling turns (L1) and the Litz wire was not necessary. To maintain a balanced output, an effort was made to wind the secondary coils (L2) symmetrically. This was not possible for the lower frequency coils which were in several layers due to the very small formers. Similarly, the primary coils (L1) were wound midway on top of the secondary coils. In practice it was found one could depart from these desirable features without upsetting the balance of the outputs.

For those who might wish to use such coils, the following are the winding data:

Band MHz	Former	L1 turns	L2 turns
3.5	Amidon L-43-2	4	95
7	Amidon L-43-2	3	48
14	Amidon L-43-6	3	26
21	Amidon L-43-6	3	18
28	Amidon L-43-6	3	14

Should coverage of 1.8MHz and the WARC bands be required, an extra switch position and coil will be needed for the former. A wider capacity range for C1 than 30pF + 30pF should accommodate the WARC bands.

The completed tuning unit box was mounted to the top of the CRO with the front edge set back about 25mm behind the front of the CRO. The pick-up signal required about one metre of RG-58 coax, as mentioned before. The output connections to the Y plates were made using pairs of RCA plugs and very short (about 50mm) lengths of miniature (RG-174) coax.

Focus

Having disconnected the Y amplifiers and grounded the Y plates through one-megohm resistors, the focus was poor. Readjusting the focus control improved it somewhat, but not back to the original condition. This effect was attributed to the removal of about +100v at the DC coupled Y amplifiers from the Y plates. The problem was eventually solved by the removal of the one-megohm resistors, thus letting the Y plates float. The tuning coil maintained both Y plates at

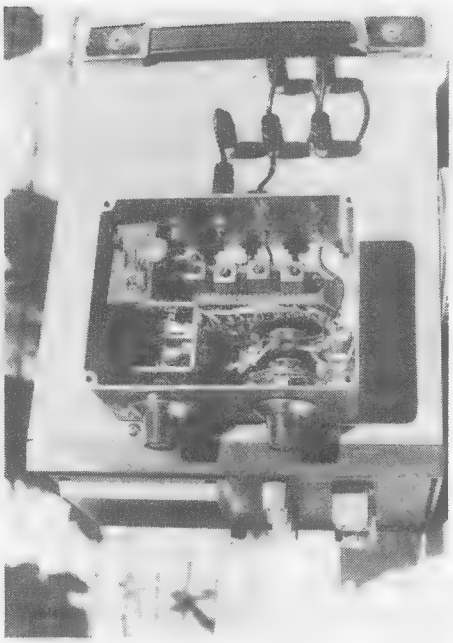


Figure 5. Interconnections.

the same DC potential and thus the trace remained in the centre of the screen. (The vertical shift control was not operative with the Y amplifiers disconnected).

Synchronisation

It was recognised that a synchronisation (sync) signal would have to be provided. This locks the sweep frequency and prevents the picture drifting across the screen. The CRO obtains 'internal" sync from the Y amplifier chain or "external" sync from an external source for which a terminal is provided. It was thought that, as the Y amplifiers were not in use, it would be necessary to use the external sync facility. To this end, a third RCA socket was provided on the rear of the tuning unit.

The incoming pick-up signal was temporarily connected to the external sync terminal. With such a low amplitude (0.5V peak-to-peak at 100 watts) it was doubtful this would work. Surprisingly, it did work up to 21MHz, but the stability was poor. The pick-up signal was then connected to the input of the Y amplifiers and the sync switched to internal. This was better due to the limited bandwidth of the amplifiers.

For synchronisation, the component of interest is the audio envelope, and half of the envelope should suffice. A simple detector circuit was built on a scrap of Veroboard (Figure 4). The pick-up signal was fed to it, and the output connected to the Y amplifiers. Excellent sync was obtained on all bands with vertical gain adjusted to suit.

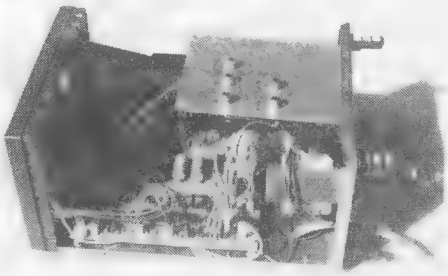


Figure 3. Socket bracket mounted inside CRO.

The above was made permanent by mounting the detector inside the tuning unit. The pick-up signal was connected to it and the detector output connected to the third RCA socket on the rear of the unit. A matching RCA socket was mounted on the bracket supporting the Y plate and Y amplifier socket. This socket was wired internally to the "vertical input" terminal of the CRO. The two RCA sockets were again connected by a short lead and the two RCA plugs (Figure 5).

This completed the construction. To revert to normal operation of the CRO,

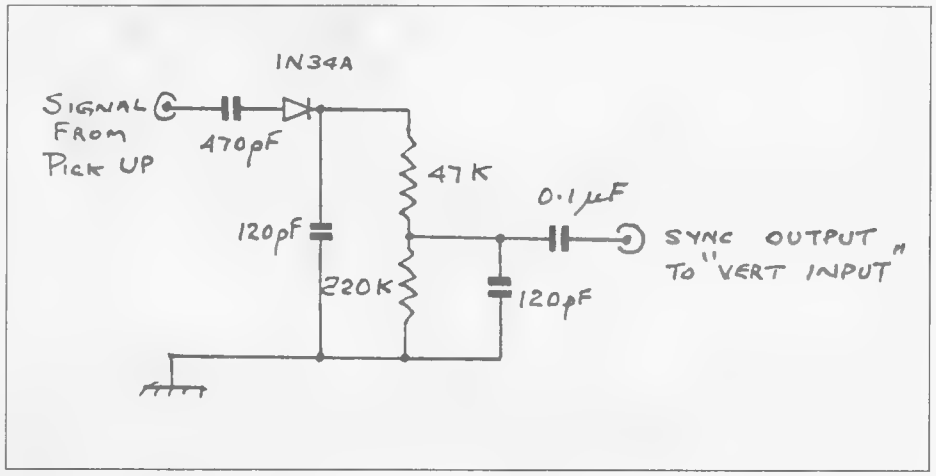


Figure 4. Detector circuit.

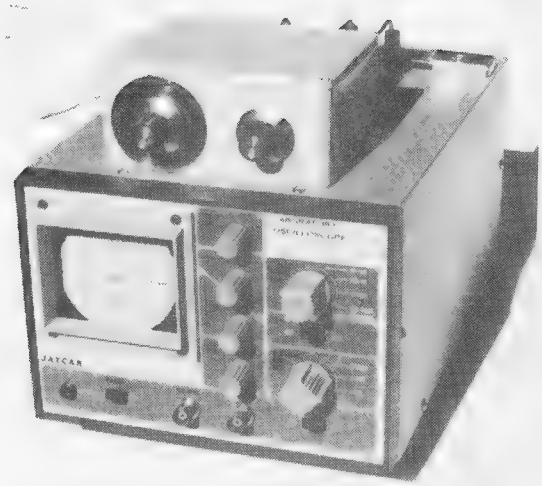


Figure 6. Complete unit.

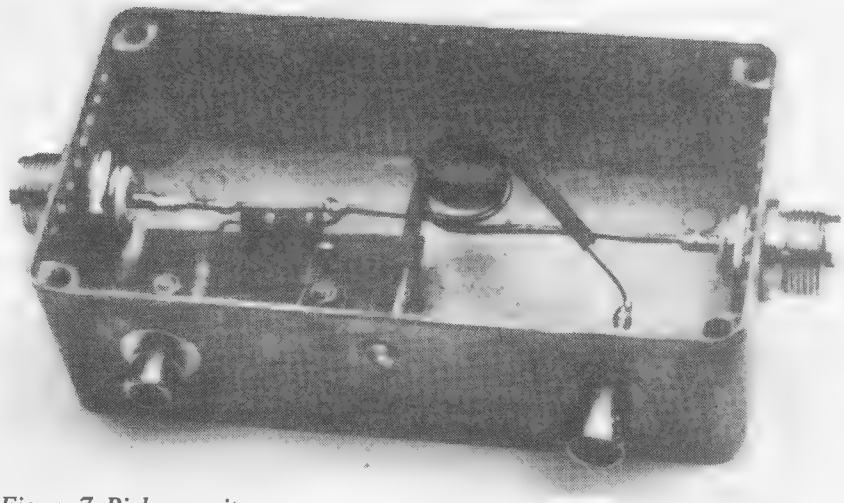


Figure 7. Pick-up unit.

all that is required is to switch the two Y plate jumper leads from the tuning unit to the Y amplifiers.

The sync lead is unplugged from the tuning unit. Figure 6 shows the completed unit, and Figure 7 the pick-up unit.

The circuit board to the left-hand side of Figure 7 is for another project.

Operation

This interesting station adjunct was first used to test the FT-757GX transceiver. It showed that increasing microphone drive so that the ALC needle moved off the zero produced little or no more power, as expected.

However, there was a danger that "flat-topping" could occur, particularly on the higher frequency bands.

At a later date, the equipment proved invaluable to test the home-brew linear. The limitations of the linear could be defined and an appreciation gained of the effects of incorrect tuning and loading and of over-driving.

The CRO is always switched on when operating, with the sweep frequency such that the trace is more or less stable and the voice pattern defined.

Maybe I kid myself, but it is comforting to see the voice peaks climbing freely and not "clipping". It also impresses visitors!

ar

amateur radio action

"Ηουσε αδϖερτισεμεντΠ φορ Αματευρ Ραδιο Αχτιον μαγαζινε το αππεαρ ιν ΩΙΑ φουρναλ Αματευρ ΡαδιοΠ."

For subscription details to just about anywhere, phone Grant Manson on (03) 601 4222

If all this looks Greek to you, perhaps it's because you're not reading the authoritative source — Amateur Radio Action magazine... at your local news outlet every fourth Tuesday.

another CE design

Mobile Operation

GRAEME MCDIARMID VK3NE 10 WOODSTOCK DRIVE TULLAMARINE 3043

LAST YEAR CHANGES WERE made to the Victorian legislation restricting the use of a radio transmitter while driving a vehicle.

With the introduction of the Cellular Radio Telephone service, there was pressure for an amendment to the legislation. The new mobile telephones were capable of "hands-free" operation, but in Victoria it was still illegal for the driver to use them while the vehicle was in motion. The particular piece of legislation governing the use of mobile transmitters was the result of a private member's bill following a road fatality where it was established that the use of a radio was a factor in the incident. The wording was very clever. The holding of a microphone was not an offence in itself. The "crime" was committed when using a microphone coupled to a radiating transmitter (the actual wording makes reference to a microphone, telephone handset or similar device).

How does this affect the amateur? Basically it means we can now transmit while driving a vehicle.

While I have not seen the changes, the following information is based on advice received:

1. It is legal to transmit from a moving vehicle if:
   (a) you do not hold the microphone
   (b) you do not have to hold the PTT
2. Headsets with microphone may not be used because:
   (a) the earpiece(s) may interfere with your hearing
   (b) the lead and unit may become a hindrance in an emergency situation, ie the lead could become tangled in the steering wheel or gear lever.
3. A boom microphone without earpieces or a microphone clipped to a seat belt or to clothing could also be considered a hindrance in an emergency.
4. Bear in mind that a large or heavy microphone could become a missile in an accident. A unit the size and weight of those used for mobile telephones may set a precedent for all users. (Australian Design Rules, ADRs, apply to the interior of all new vehicles; any additional object may be illegal).
5. A charge of dangerous driving could still be laid if a police officer considered you were not paying sufficient attention to your driving, ie driving through a busy intersection while talking.
8. Just in case you have been put right off the idea, read number 1 again.

Well, it seems that what a lot of people have been doing illegally for years may now be able to be done within the law.

A word of warning, though, it won't be me sitting in judgment if you are apprehended. It doesn't take a QC to figure out that a defence plea of "VK3NE said it would be all right" won't help very much in court.

The foregoing material is supplied for information only. Remember, it is **your** responsibility to comply with the road laws.

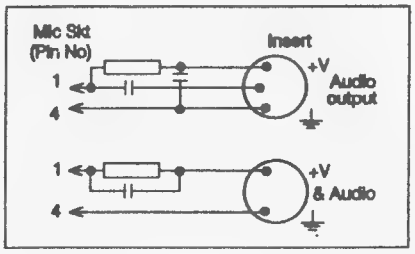
Now, if you have read this far and would like to try constructing a microphone for hands-free use, I have some circuits and information for you to try out.

A small electret insert is available from many of the usual bits suppliers. Most of them have the normal omni-directional unit. Jaycar in A'Beckett Street also has a unidirectional unit which may help reduce background noise.

Electret inserts have a very low power requirement and this means it is very easy to supply power as shown below. They come with two or three connections; both are suitable.

1. Icom transceivers with a four-pin microphone socket

Power is available on pin 1 (via a 4.7k res from +9v rails)

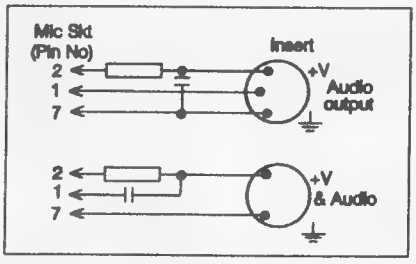


91/035 fig 1

Resistor value is not critical; it will need to be chosen to suit the insert. Don't exceed manufacturer's voltage recommendation. One insert required 4.7k to give approximately four volts at insert. Capacitors are 3µF/16 volts. Tantalum or electrolytic are okay.

2. Icom transceivers with an eight-pin microphone socket

Power is available on pin 2 (+8 volts)



91/035 fig 2

R and C values same as for four-pin socket.

3. Other makes of transceivers

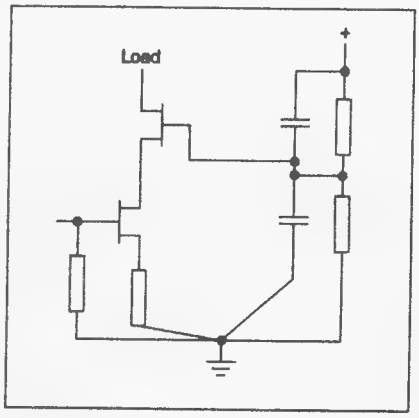
The previous circuits can be applied to any other makes. A quick check of the circuit will soon tell you if there is power already there or if there is a spare pin you could use. If your transceiver has a four-pin microphone socket and you have already used the spare pin for something else (aux radio, squelch signals, discriminator O/P etc) you may consider adding the components to the circuit board to do it the "Icom way".

The small current that flows through a dynamic insert because of the 4.7k resistor won't upset the insert (or the audio).

Icom Circuit (IC 22S)

R139 (4.7K) provides +9 volts

C166, R140 and C165 form a low pass filter



91/173 fig1

Construction

If you use a 1/8W resistor and a small capacitor they will fit inside the cover of

the microphone plug. The lead can then be soldered direct to the insert. Use twin shielded cable for the insert with three connections. Thin coax or shielded audio lead is ideal for the two-connection unit. The insert can then be enclosed in a piece of foam plastic to hide the connections. Heat-shrink sleeving can also be used, but be careful not to "cook" the insert. Two obvious places to mount the unit are the sun visor or against the headlining near the front pillar.A simple mounting clip could be made by twisting a paper clip around the lead close to the insert. The leads for the PTT can be brought out of the plug cover beside the lead to the insert. I have used a small toggle switch mounted on the microphone plug cover. If you use a toggle switch, make sure it cannot be easily knocked to the "on" position. A spring return switch would be safer, but this would require you to hold the PTT. Whatever method you use, bear in mind the road traffic act, ADRs, DoTC, junior harmonics, other drivers of the vehicle (wife, friend, harmonic, mechanic)

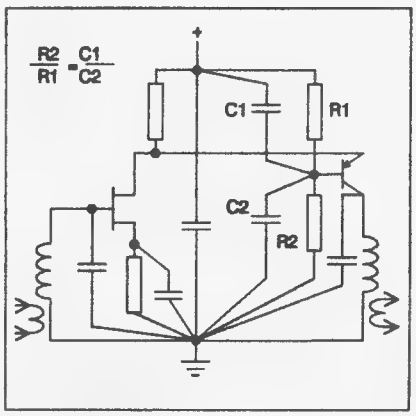
The microphone gain control of your transceiver may need to be reset, but don't rush into this until you are sure you will be using only the one microphone with it. Make sure it is the microphone gain you alter, and not the deviation.

Something to keep in mind with mobile operation. Some vehicles can be very noisy at freeway speeds. If your transmitted audio has a high level of background noise it can be very difficult for another mobile station to make any sense of your transmission. If you ask for an audio report and the answer is "you have a lot of noise but I can hear you okay, that's the main thing",

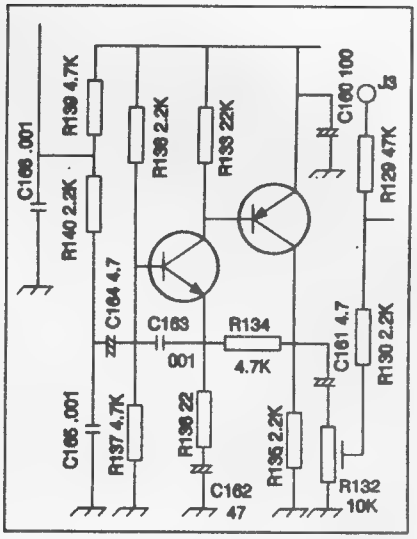
a) Terminate the contact immediately. The person you are talking to either does not know what the "main thing" is, or is one of those operators who gives a 5/9 report and then has to ask for his own report at least five times;

or

b) Seek another report. You probably have a fairly high level of vehicle noise and it may be possible to improve things by repositioning your microphone or resetting the microphone gain.



91/173 fig2



91/035 fig3

It is worth the effort to make sure you are transmitting good quality audio. While it may be convenient for some to refer to the 2m band as the telephone band etc, it is still an amateur band with a lot of users and listeners. There are many facets to our hobby. Not everyone is interested in constructing, CW, DX, packet etc, but there is one common thread. Whatever your interests or mode of operation, do it to the best of your ability.

Cheers, Graeme VK3NE
ar

Technical Correspondence

Simple Capacitor Dividers Without a Calculator

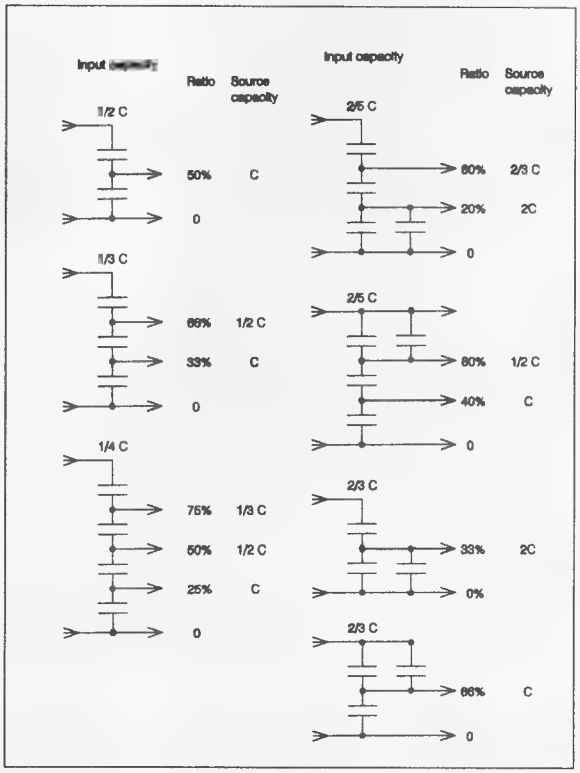
MOS, CMOS and VMOS in particular have revived the subject of load adjustment between stages using a capacitor divider.

These have been out of fashion, which is a pity, as they provide useful harmonic suppression. There is no point in feeding harmonics into a perfect amplifier, the driver now determines the output signal purity!

Simple capacity calculations are easy with fractions, but memories grow dim. Here are simple dividers for common ratios. You can either divide a known or selected value into a nominated step-down in voltage or, having a capacity that requires a particular voltage across it, say a VMOS input, the ratio can be selected to correctly load the driving source. In making a capacitor chain for HF, it is essential to keep the series L in the connections as small as possible.

Similar chains of components are applicable to resistors and inductors. You can by selection or adjustment of four L, C or R, connect them to obtain very precise calibration points for a meter or bridge. Illustrated ratios: 20, 25, 33, 40, 50, 60, 66, 75 and 80 percent.

ROBERT R MCGREGOR VK3XZ 2 WILTSHIRE DRIVE, SOMERVILLE, 3912 **ar**



Magnetic Loop for 14 to 29MHz

K R (Dick) Harvey VK2BKH 7A/28 Woods Pde Fairlight 2094

THIS LOOP HAS BEEN IN operation for more than a year giving consistently good results. No claim is made that it is the ultimate possible, as much has been learned by its construction and use. The writer can recommend it in its present form as a worthwhile alternative for a dipole, being of particular value where space is limited, as is the case of the writer, living in a home unit.

The design is based on an article in the English magazine *Ham Radio Today* of December '89, written by G6VS. Much additional aid has been provided by letter and per CW from G4FM. Also, the *ARRL Antenna Handbook* of '88, chapter 5, has been very useful and is recommended reading for would-be "loopers".

Generally speaking, small antennas make use of loading coils to achieve resonance. If a large capacitor is used instead of coils together with a low-loss conductor formed into a loop, much greater efficiency is obtained (Ref *ARRL H/B).*

Having a radiator length of 102 inches of 3/4-inch copper pipe bent to make a circle of approximately 31 inches (depending on gap) and tuned with a capacitor of approximately 125 + 125pF, this loop covers from 14-29MHz.

On air, the writer finds the loop compares favourably with his multiple (five band) dipoles. The radiator length, slightly less than 1/4 wavelength on 29MHz, is the optimum for that band, so the loop's efficiency will be greatest at that frequency, dropping off at 14MHz where, of course, the length will be about 1/8 wavelength (Ref *ARRL H/B).* If maximum performance is desired on 14MHz, the loop diameter should be increased to approximately four feet. Coverage then would be from 14-7MHz.

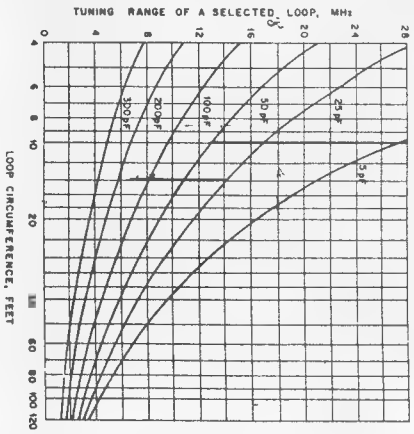
Construction should be clear enough from the diagrams and photos, but the writer has found it would have been better to have terminated the ends of the loop on the same side of the mounting base as the capacitor. This then would bring the gap under the weather cover, obviating the need for the external canopy at the back of the box as shown. More importantly, shorter connections to the capacitor would ensue.

The key to an efficient loop is to keep all resistance, both DC and RF, to a minimum. The lower the resistance, the higher the Q factor becomes, which in turn determines the bandwidth and the terminal voltages at the ends of the loop. So all connections should be as short and as perfect as possible (Ref G6VS).

Ideally, the copper tubing should be polished and given several coats of clear marine varnish to avoid losses (Ref I1ARZ).

The capacitor must be a split-stator to avoid the resistance introduced by the rotor connection of a standard one. Change of capacity is still obtained, the two halves being in series.

Special vacuum capacitors are made for this use. A much cheaper option is to replace the aluminium plates of a conventional capacitor with copper ones, soldering the ends of all plates together to avoid losses (Ref *ARRL).* The author has done this, but found no measurable improvement. The use of copper did seem, however, to maintain the efficiency against the gradual deterioration by weathering effects. Also connections to the capacitor can then be made by soldering. If only indoor use is envisaged, the aluminium plates would suffice.



Frequency tuning range of an octagon-shaped loop using 3/4-inch copper water pipe, for various values of tuning capacitance and loop circumference. (Courtesy ARRL Handbook *1988).*

Plate spacing is also very important, as very high RF voltages are generated at the gap in the loop. With 100 watts to the loop, voltages of 6000-7000 are encountered (Ref G6VS). Minimum spacing for 100 watts usage should be .080 inches (Ref *ARRL H/B).*

In the writer's case, the final capacitor was found by trial and error, changing spacing and number of plates until the desired tuning range was obtained. Some trimming of the radiator length was also necessary. The ARRL graph shown here (not available at the time) should be of assistance as a guide, noting it was compiled using an octagonal loop made of nominal 3/4-inch pipe (USA) which has an actual OD of 0.90 inches.

In regard to the use or not of the octagonal shape (Ref *ARRL* and G6VS). Round is the preferred shape as it encloses the maximum area for a given circumference, but the use of the octagonal would incur only a small loss and may be easier for some readers to construct. For example, G6VS made his by using a blow lamp to solder seven 45° Yorkshire fittings (ex-plumber's supplier) with eight short straight lengths of pipe interposed to make the octagon.

The author found the round shape not very difficult to make, as the stores mostly carry their pipe stock in big spiral coils. With this as a starting point, the pipe was filled with sand, well tamped down, and bent around a wooden former to size and shape.

Both gamma and half-Faraday loop coupling work equally well. The writer prefers the loop at it seems less affected by nearby metallic objects.

SWRs of 1:1 were readily obtained on 14/18/21MHz, rising to 1.4: on 24 and 28MHz.

In regard to the remote-control mechanism, there are commercial units using stepper motors with integral gear trains available from the USA and the UK, at a price.

For the home-brewer it will be largely a matter of personal ingenuity as to what items can be adapted to get the very slow speed of capacitor rotation needed. Pos-

sible sources are small computer motors with built-in gears, electric car aerials and even rotisserie motors.

In the writer's case, a small 6-12V DC motor (supplied from a variable power pack) drives a gear-chain removed from a discarded electric can-opener. This goes through a Meccano worm and gear-wheel combination (relics of boyhood days) to connect to the shaft of the capacitor.

A potentiometer is also coupled to the capacitor spindle (see diagram). The resistance of the potentiometer is such that when in series with a 1.5V cell and suitable meter (say 0 to 1mA), there is a full-scale reading at one end of the potentiometer's rotation, going down to zero at the other end. The potentiometer is then aligned with the capacitor so zero is read on the meter when the plates are in full mesh, going up to full-scale when the plates are fully out.

The meter can then be calibrated to show the various bands. The meter and battery are, of course, in the shack in a control box containing also a small PB On/Off switch to activate the motor, and a DPDT switch to provide forward and reverse motion.

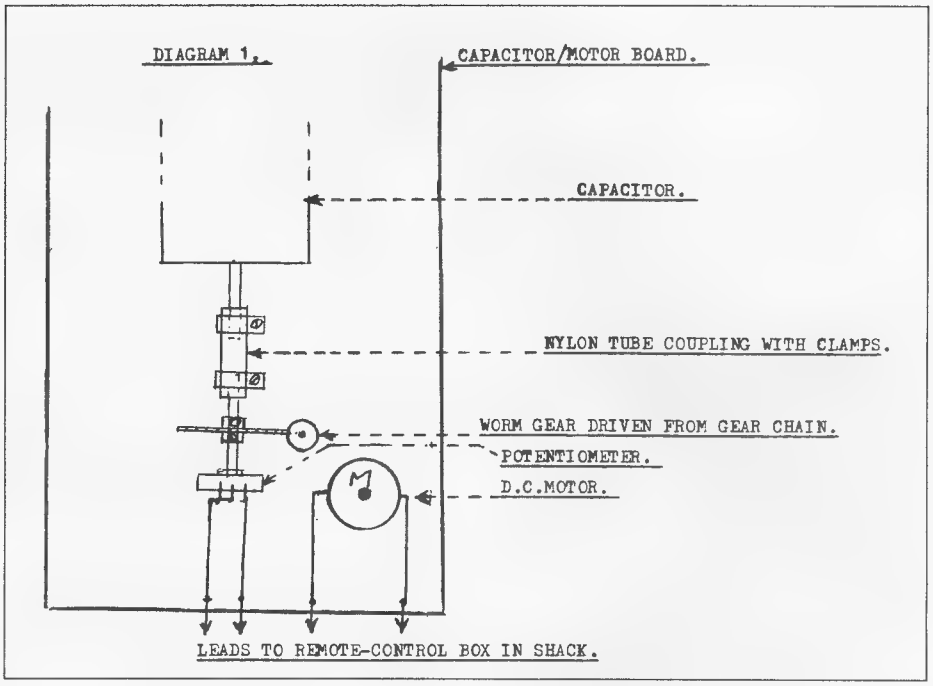
The variable voltage supply allows control over the speed of tuning. With this arrangement it takes about 20 seconds to rotate the capacitor plates from one end to the other using highest voltage. Having located the desired band the voltage is reduced to obtain the very slow speed necessary to tune exactly to minimum SWR.

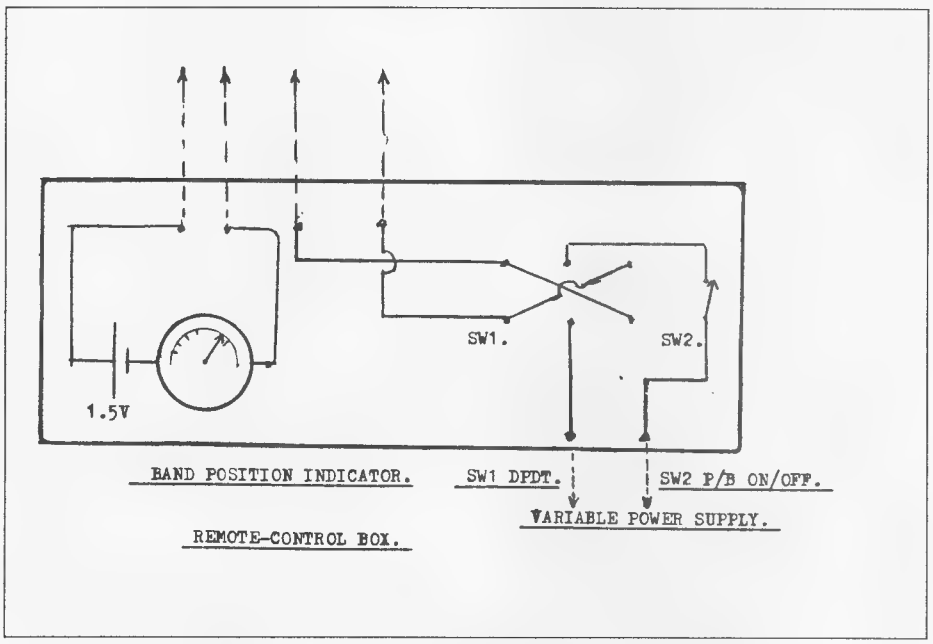
The exact centre of the loop's circumference is at zero (earth) potential so there is no need to insulate the loop from the mounting mast at this point.

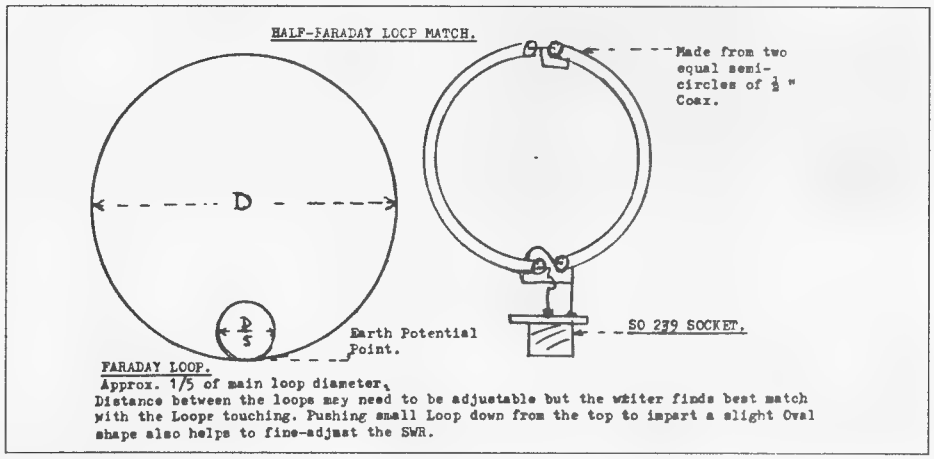
No earth is necessary, nor is great height. G4FM, who has been worked many times, has his loop up 7ft from ground, surrounded by thick stone-wall buildings, and it out-performs his Butternut vertical which is up 30ft.

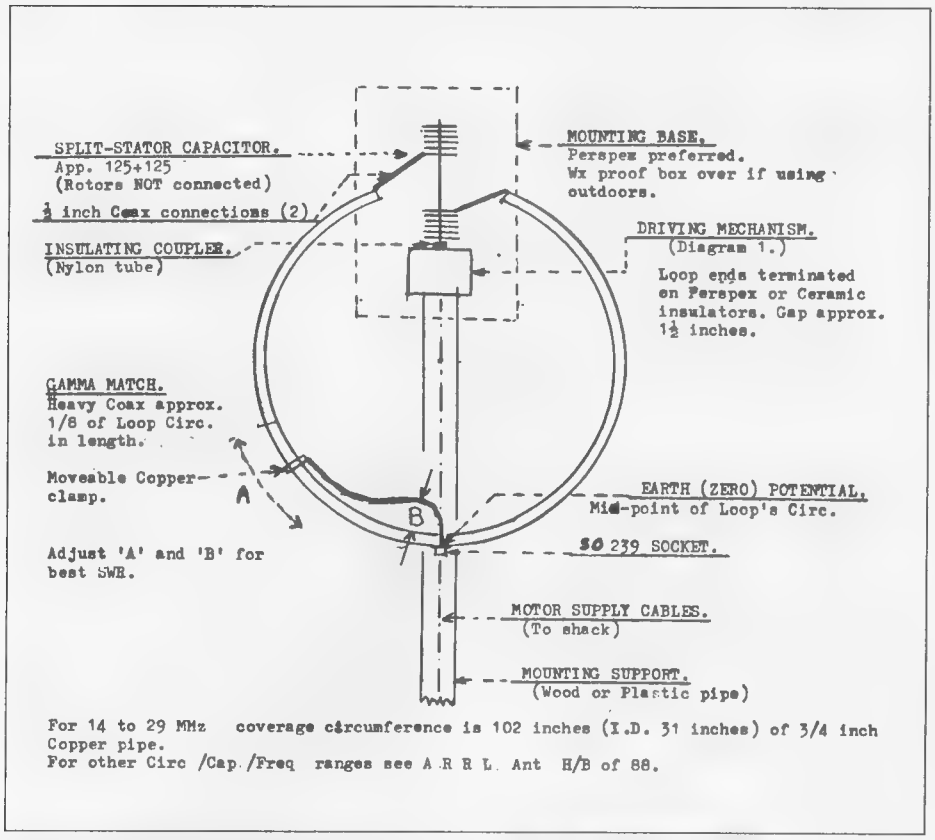
Loop radiation pattern is with the main two lobes lying in the plane of the loop (opposite of dipoles) so it is bi-directional. A rotator would be advantageous, but not essential, with the broad coverage obtained. Loops have low, medium and high angles of radiation so can replace both verticals and dipoles.

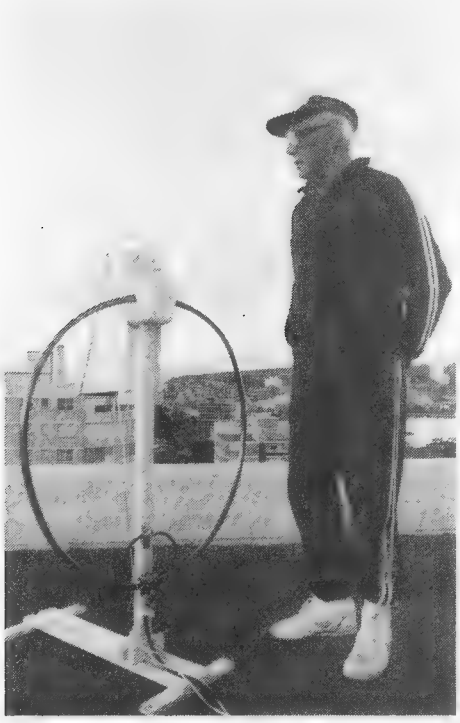
Magnetic loops can also be used in the horizontal position, in which case they become omni-directional with low angle of radiation. This appears to be the preferred position in the USA, where advertisements show commercial models such as the Isoloop and Comloop in the horizontal mode. Tests by the writer using the loop this way were disappointing. It appears great height is necessary (Ref *ARRL H/B).*



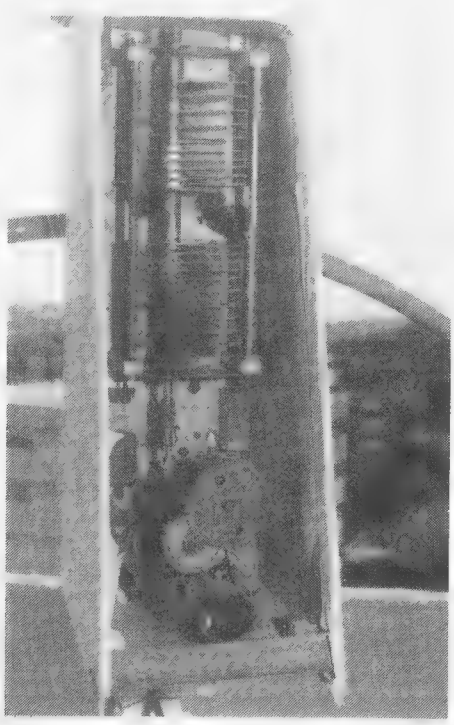








Dick VK2BKH with the complete loop.



The split stator capacitor and slow motion drive assembly inside housing.

In the author's case, living in a high-rise block of home-units, the flat concrete roof used as an antenna farm is approximately 100 feet above ground level, an ideal take-off for any antenna. The loop's rather low mounting height (six inches) is dictated by the need to keep its size down to manageable proportions as it has to be carried up two flights of stairs, through narrow doorways to reach the roof, then over a 6ft-high safety fence to reach the outer area. Wind resistance is another consideration.

Actually this apparently favourable take-off is nullified to some extent by the fact that the loop is surrounded by big metal pipes, masonry walls enclosing clothes hoists, lead flashing around parapets, and is rather close to an array of multiple dipoles. In fact, the reference dipoles have a much clearer take-off, being another 17 feet higher at the peaks.

Initial tune-up would be to put the rig on receive at 21MHz, then to rotate the capacitor until a sharp increase in noise level indicates resonance. Then switch to transmit and, with a low-power carrier, again rotate the capacitor at very slow speed, backwards and forwards, until minimum SWR is obtained. The positions of the other bands are then easy to find in like manner. The face of the meter can then be calibrated to suit.

Unfortunately the author has no instrumentation with which to measure the high RF voltages at the gap in the loop which would be an indication of its performance. Instead the following criteria were used:

1. SWR
2. Field-strength readings under controlled and repeatable conditions.
3. Comparative F/S readings with dipoles.
4. Bandwidth as an indicator of Q. B/W is taken as twice the change in frequency to go from a SWR of 1:1 to a SWR of 1.5:1 (Ref G4FM).

B/W readings obtained in the writer's case were on 14MHz-24kHz; 18MHz-44kHz;21MHz-68kHz.

To summarise, in the writer's opinion, the magnetic loop is a very worthwhile small antenna. It requires no earth or radials, and takes up very little space. In comparison to other small antennas such as a whip it is more efficient, as no loading coils are involved.

In the USA, controversy has risen from claims made by the makers of commercial magnetic loops such as the Isopole and the Isoloop that their loops have a gain over a dipole. Evidently it is possible to prove this is theoretically impossible. Be that as it may, the writer tends to agree with G6VS and say that in his experience a well-built loop can perform equally as well as a dipole.

Finally, consideration should be given to a mono-band version where the radiator could be made the optimum length and smaller, cheaper capacitors used. For the very narrow WARC bands even fixed tuning with simple home-made capacitors is a possibility, thus doing away with the remote-control mechanism.

ar

VK Novice, R D John Moyle FD Contest Programs

CRAIG PRICE VK7VEE
4 REBECCA COURT
PROSPECT 7250

AND

BOB RICHARDS VK7NRR
PO BOX 168
LAUNCESTON 7250

(ADAPTED FROM A PROGRAM WRITTEN BY NEIL CORNISH VK2KCN)

IN THE JUNE 1984 ISSUE of *AR*. there appeared an article by Neil Cornish VK2KCN entitled "A Computer Program for the VK Novice Contest".

Although originally written for the Commodore C64, we have successfully re-written the program in GW BASIC for IBM compatibles. After testing, we found it would run equally well under BASICA.

In addition, shortly after the program originally came out, Bob modified it to use in the RD Contests. Both Craig and Bob until now have used the novice and RD programs with great success and enjoyment.

About the Programs

Throughout the programs, REM statements have been used. **Do not** remove them unless you know what you are doing, as the program uses some of these lines in GOTO and GOSUB statements.

Overview

As already mentioned, Neil wrote the original program that we have adapted for use in the NOVICE, RD and John Moyle contests. Neil's program did not have DISK SAVE, and it was longer than the present program we adapted. A modification was made after the program came out, making the duplicate checking simpler and adding the disk save feature.

As before, or for those of you who have not seen the original program, the program will do your duplicate checking, automatically generate the number to be sent, calculate the points scored for that contact, save each contact to disk as you finish the contact, and print your contest log as you go. It will even tally your point score at the end of each page, and at any time during the contest you can use the option on the main screen to bring up your progressive score.

At the end of the contest all you have to do is fill in the PAGE ..... OF ..... PAGES, run the file COVERPGE,PRN, put it all in an envelope and send if off to the Contest Manager.

Another feature just added allows for re-contacts to be made after a set time has elapsed. (Introduced with the 1990 Novice Contest).

The Screens

There are four screens in the program.

The first screen allows you to input the callsign you will be used during the contest. It will then ask you if you wish to recall a previously saved log. (This will not apply to the first use in any contest, so the answer will be "N"). You will then be asked if you would like to save your log to disk. (A good idea if you have a power failure or you need to turn off your computer). Next, you will be asked if you require a print-out. (You would normally answer "Y" to this, but we have included the option so the program can be tested without the need to waste a lot of paper). Finally, you are given the chance to input the time lapsed allowed for repeat contacts.

The second screen allows you to select the mode you wish to use. The Novice Contest allows only CW or phone, so you can select only one of these. But the other contests catered for allow all modes (or those most commonly used).

The third screen allows you to select the **band** you wish to operate on. For the Novice Contest only 3.5MHz, 21MHz and 28MHz are shown, but for the RD Contest and the John Moyle Field Day, all six HF bands are shown. If you change bands during the contest you are returned to this screen so you can make a new choice.

The fourth screen is the **main screen.** The information on this screen will remain throughout the contest as a guide to the options available to you whilst working the stations you are in contact with. It also tells you if DISK SAVE is ON/OFF, LOG PRINT is ON/OFF and what band and mode you are currently using.

What to do if the Power Fails

If the power fails or the program crashes (hopefully, neither will happen), the following procedure **must** be used **before** you use the recall option on the first screen.

Using a text editor, you will see the file, in the case of the Novice Contest, the file named NOVCON, looking like this:

```
VK1AA    15900159003    08:01.  2
VK2BBB   15900259004    08:01   2
VK3CCC   15900359002    08:02   2
VK4DD    15900459001    08:02   2
VK5EEE   15900559005    08:02   2
VK6FFF   15900659002    08:05   2
VK7NNN   15900759003    08:06   5
VK8SAA   25900859014C   08:07  10
(here the power failed)
```

Edit the file by putting the last contact number (referring to the example above) 8 plus a * as the last line of the file as follows:

```
VK8SAA   25900859014C 08:07 10
8*
```

Having done this, re-save the file, boot the program as normal, and when asked if you want disk recall type "Y" and continue to answer each prompt as you would if commencing the contest.

What to Do if You Close and Exit the Program During the Contest

If you do this only once during the contest there is no problem.

If you do this two or more times you will have to edit the file as if you had a power failure, only this time the file will look like this:

```
VK1AA    15900159003    08:01   2
VK2BBB   15900259004    08:01   2
VK3CCC   15900359002    08:02   2
VK4DD    15900459001    08:02   2
4*
VK5EEE   15900559005    08:02   2
VK6FFF   15900659002    08:05   2
VK7NNN   15900759003    08:06   5
VK8SAA   25900859014C   08:07  10
8*
```

What you must now do is delete the **previous** file ending, ie 4*, so the file looks like this:

```
VK1AA    15900159003    08:01   2
VK2BBB   15900259004    08:01   2
VK3CCC   15900359002    08:02   2
VK4DD    15900459001    08:02   2
VK5EEE   15900559005    08:02   2
VK6FFF   15900659002    08:05   2
VK7NNN   15900759003    08:06   5
VK8SAA   25900859014C   08:07  10
8*
```

Re-save the file and proceed to re-boot the program, recall the file within the program and continue with the contest.

You will have to do this each time, after the second time, that you used the close file and exit option.

Some of Neil's Original Comments

The program follows the VK Novice Contest rules and prints the log accordingly (see example). As is the way with most contest QSOs, all contacts are five and nine. Purists may write their own sub-routine to give varying signal reports. CW operators are catered for within the program when the mode is selected from the second screen.

The program is fairly forgiving if you make typing errors in the callsign. Typing the * symbol at the end of the input of either the callsign or the number received will abort the entry.

For those who wish to have all three programs in their disk library, we will be bringing out versions for the RD Contest and the John Moyle Field Day Contest as the time approaches. These versions will only be as line deletions, line attractions or new lines to be entered into this listing. The line numbering has been kept the same in all three programs so this can be achieved.

Due to the space required to reproduce the program here, and the time needed to key it in, it is available only on disk, for $5.00. This amount will cover the cost of the disk and postage. The disk is obtainable by writing to:

Bob Richards VK7NRR
PO Box 168
LAUNCESTON 7250.

The disk will contain all three programs.

Future Development

Bob and Craig hope to be able to produce amendments to this program to enable it to be used with stations going portable for the John Moyle Contest. This will apply only to the VHF section, as distance comes into consideration under the existing rules.

Finally

Bob and Craig would like to thank Neil Cornish VK2KCN once again for his efforts with the original program, and look forward to hearing from those who would like to use these programs.

Good luck and happy contesting! **ar**

Support the advertisers who support Amateur Radio magazine.

VK Novice Contest 1991

Callsign: VK7NRR
Category: HF
Section: Transmitting phone — Novice/Full Call

Date	UTC	Band	Mode	Callsign	TX No	RX No	Points
05-01	08:18	3.5MHz	SSB	VK1ABC	59001	59002	2
05-01	08:19	3.5MHz	SSB	VK2DEF	59002	59004	2
05-01	08:19	3.5MHz	SSB	VK3GHI	59003	59006C	10
05-01	08:19	3.5MHz	SSB	VK4JKL	59004	59008	5
05-01	08:19	3.5MHz	SSB	VK5MNO	59005	59010	5
05-01	08:20	3.5MHz	SSB	VK6PQR	59006	59012	5
05-01	08:20	3.5MHz	SSB	VK7STU	59007	59014C	10
05-01	08:20	3.5MHz	SSB	VK8VWX	59008	59016	5
05-01	08:20	3.5MHz	SSB	VK9YZ	59009	59018	2

Disney Amateur Radio Clubs to Celebrate Opening of Euro Disney Resort

In commemoration of the April opening of the spectacular Euro Disney Resort, located just outside of Paris, France, the Disney Amateur Radio Clubs will operate their third international "special event station" on April 4 and 5.

In addition, the four Disney clubs, which are located at Disneyland in Anaheim, Calif (N6MM), Walt Disney World in Orlando, Flax (WA4ABQ), Tokyo Disneyland (JL1YZB) and the Queen Mary & Spruce Goose Entertainment Center in Long Beach, Calif (W6RO), will be joined by the Radio Club de St Maur in Paris, France (FF6KMX).

Stations will be operating SSB on 14.250,21.325 and 28.450 plus or minus. Operating hours for the commemorative special event station will be from 0000 on April 4 to 2400 on April 5.

This is the third special event organized by the Disney radio clubs. During the inaugural event, in honor of Disneyland's 35th Anniversary in 1990, more than 2000 contacts were made with other radio operators. In September of 1991, the first international special event station which commemorated Walt Disney World's 20th Anniversary resulted in 6800 contacts from operators all over the world.

Stations contacting one of the Disney Special Event stations should send their SASE and QSL with QSO number to:

Disneyland Amateur Radio Club
Box 3232
Anaheim, CA 92803

Sign up a new WIA member today - use the form on the reverse of the *AR* address flysheet.

The MFJ-207 SWR Analyser

RON FISHER VK3OM.

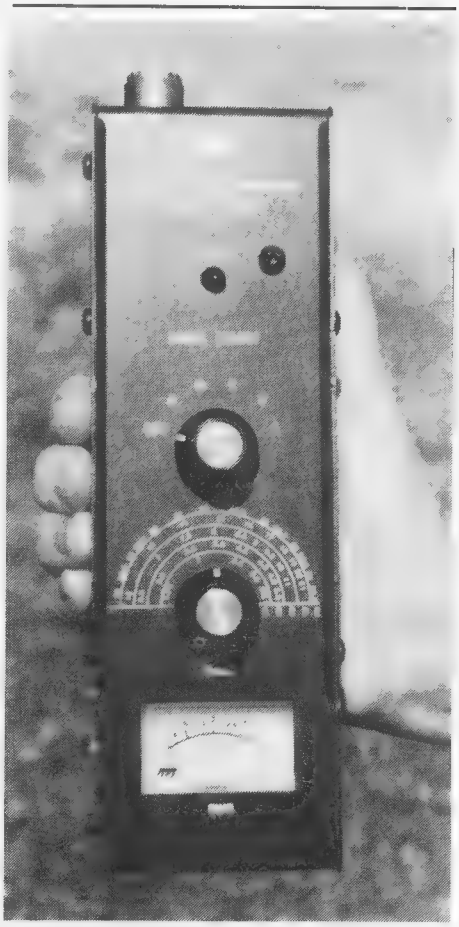
THE MFJ207 IS A HAND-HELD battery operated SWR indicator covering a range of 1.8 to 30MHz in five switched bands. A tuning control and a calibrated scale allows the actual frequency to be set to a fair degree of accuracy. An SO-239 connector on the top of the unit provides for input either directly from the antenna under test or from the antenna via its normal feeder system. A meter then indicates the actual SWR. The MFJ207 is designed to operate with 50 ohm coaxial lines only. For antenna experimenters it would seem to be a dream come true, so let's see what makes it work and see how well it works in practice. The first part of the question has to be answered more on the basis of how I think it works, as no circuit diagram is supplied with the otherwise good instruction book. A band-switched VFO supplies a small amount of power to a bridge circuit. One side of the bridge goes to the output connector, and when this is connected to a 50 ohm antenna system the bridge is balanced and the SWR meter reads zero which indicates a 1:1 SWR. In actual fact there is about 0.01 watts delivered to the antenna which can be heard over a surprising distance with an effective antenna. However, it is unlikely to cause any interference unless you have an amateur living next door. The MFJ207 is powered by an internal 9V battery or from an external power supply via a connector mounted on the top of the cabinet near the SO-239 connector. There is also an RCA connector here to provide output to an external frequency counter or receiver for calibration.

The MFJ207 in operation.

The first thing is to get the battery into the cabinet. This requires the removal of eight screws. The battery is held inside with a metal clip. While fitting the battery, I decided to measure the current drain. It was 40mA. On this basis, the specified alkaline-type battery is definitely required to hold up under the rather high drain. I had a standard 9V battery available, so put it in to see how it would work. The first test was on a 50 ohm dummy load and the unit performed in copybook style. The meter indicated 1:1 over the whole frequency range. Connecting it to actual antennas was not quite as satisfactory. I firstly checked the SWR on my standard SWR meter and

Top view showing antenna input, RF out to counter or receiver and the DC input socket.

then tuned the MFJ across the the frequency. There was certainly a dip on the meter, but the actual SWR reading was usually higher than the reading on the standard meter. On this basis, you would need to do the final adjustments using your normal meter. It was about this time I noted that the meter off-tune reading was dropping rapidly from full scale. So much for cheap 9V batteries. I remembered the DC connector on top; no trouble I'll connect a DC power supply for the rest of the tests. But the connector is not marked for polarity and there would be a better than 50 percent chance that whichever way I connected it, it would be the wrong way. Again, without a circuit diagram it could be hard to work out. The instruction book was no help either, it only tells you to use a particular MFJ DC supply which presumably has a connector on it wired the right way. So, back to another standard 9V battery. If the MFJ was to be used outside at the antenna, calibration would be a problem. Two factors come into this. Firstly, there is no pointer on the tuning control, only a mark on the skirt of the knob, so it's hard to tell where the knob is relative to the calibrated scale. Also, this is a direct drive with no vernier action. Secondly, there is some hand-capacity effect, which shifts the actual frequency to some extent, particularly on the highest frequency range. On the first point, I note in Stewart's latest catalogue that the MFJ207



The MFJ-207 SWR Analyzer.

is now fitted with a vernier drive, so this should overcome most of the problems here. However, I believe that in the near future an upgraded model will be available with a built in LCD frequency readout. I look forward to seeing this.

The MFJ207 Conclusions.

I would have to say that MFJ have a great idea in the 207. It, however, is lacking in a few vital areas as mentioned above. Most of them could be put right with very little trouble. From an operational point of view, the instruction book is very well written and the SWR/coax loss chart should be studied by all antenna constructors. At $219, the MFJ207 SWR Analyser is a most useful addition to any antenna experimenter's shack. Our MFJ207 was supplied by Stewart Electronic Components, 44 Stafford Street, Huntingdale, Victoria 3166.

The Criss Cross HF Antenna

CLIVE J COOKE VK4CC, PO BOX 161, BRIBIE ISLAND 4507

TWO INVERTED VEE-TYPE antennas suspended at right angles to each other from a central pole and fed in parallel at the apex is not, of course, a new idea. According to William Orr in one of his antenna books, WA4LCO achieved the difficult five-band DXCC award using such an arrangement for his antenna which consisted of leg lengths of 66ft (20.1m) and a parallel tuned ladder feedline of the same length. The supporting central wooden pole was 50 feet (13.3m) high.

The achievement by WA4LCO is, of course, to be commended, but it would be of interest to know if his task might have been easier if, instead of feeding the system as shown in Figure 1, the arrangement adopted in the Criss Cross antenna had been used. Comparison between Figure 1 and Figure 2, that of the Criss Cross feeder arrangement, will show that with the former, an instantaneous **negative-negative-positive-positive** polarity would exist at the end of the legs, resulting in a bi-directional radiation pattern. A **negative-positive-negative-positive** polarity exists with the Criss Cross leading to a reasonable omni-directional pattern, horizontally polarised because of the E field between adjacent legs.

The Criss Cross design, believed to be original, was used by me several decades ago at Macquarie Island when I was serving as radio supervisor in one of Australia's Antarctic research expeditions, when I was required to arrange communications with terminals other than that to which our main HF antenna system was directed. The 70ft (21.8m) central metal pole became available for my use when a fire destroyed the ionospheric recorder associated with the antenna supported by that pole. Therefore, using the original wire, leg lengths of about 100ft (31.2m) sloping down to about a 10ft (3.1m) ground level resulted. The four poles for that purpose were already in position for the antenna which was previously directed vertically for ionospheric soundings.

An open wire transmission line suspended on telephone poles was tuned with an efficient antenna tuner so that any one of the available HF frequencies assigned for our use could be used with the antenna and, to my delight, the performance of the Criss Cross was so much better than our other antennas that

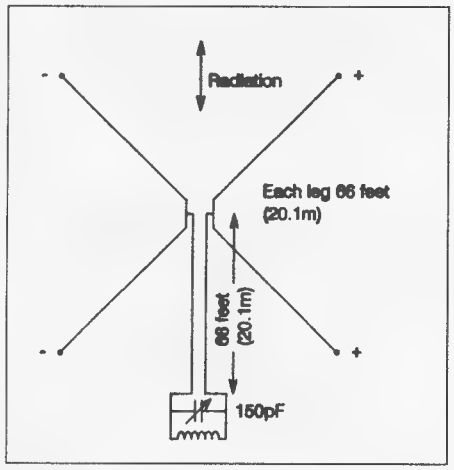


Figure 1

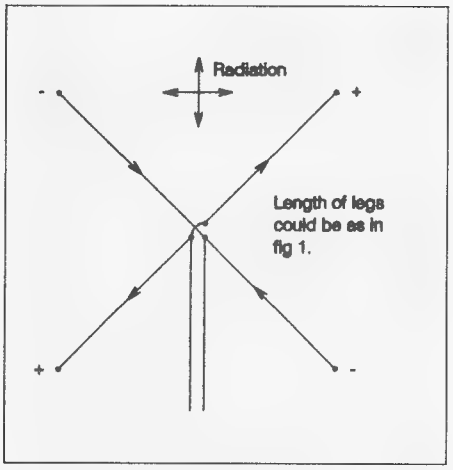


Figure 2

henceforth it was the **only** one used. Considering I had earlier made a Lazy H antenna suspended between two 70ft (21.8m) poles for use on our most-used 7MHz band frequency for communication with Sydney, it was indeed a surprise for that antenna to have fallen into disuse. On the ham bands, mostly 20 metres, using the Criss Cross in the limited free time available, I was able to provide a new country to several thousand DXers on CW.

I would appreciate any feedback on the Criss Cross if anyone has the real estate to try one. There would seem to be no reason why the dimensions used by WA4LCO could not be adopted using the feed point connections of the Criss Cross.

Not only did I use the name Criss Cross because it aptly describes the shape of the antenna as seen from above, but, have a look at my name and callsign, and you will note a common thread.

More recently, I once again captured the thrill of the use of the antenna even though it was scaled down to fit into a small relocatable home site and suspended at the apex at a mere 25ft on an earthed aluminium pole. Each of the two inverted Vees is 66ft total length, thus being 33ft per sloping leg. It is fed with the 8ft of 450 ohm ladder line terminated in a 4:1 step-down balun into a short length of coaxial line. A Yaesu FC102 antenna tuner is used with which to resonate the system. I appreciate these might not be optimum dimensions, but as the ATU handles the tuning (now that about 8ft of the original length of 450 ohm line was removed to obtained resonance on 7MHz), I am tempted to leave it as it is.

Users of the G5RV type of antenna in its various forms such as described in July 1987 *AR*, might care to position a second wire at right angles to that now in use, and change the feedline connections to conform to that used in the Criss Cross.

Operationally the antenna surpasses my actual expectations, equal in performance to a two-element triband Yagi, which I admit is not as high as it perhaps should be, but which, until the Criss Cross came into being, was my main DX antenna. The reference antenna on 7MHz and the WARC bands is a 50ft-long VK Caltenna, which shows the Criss Cross is about three "S" points better throughout. The best band on the VK Caltenna is 3.5MHz, as it will be understood that the Criss Cross is too short for practical use on that band.

The DX performance of the Criss Cross verifies that in effect it is two W8JK type low-angle radiators (180 degree phasing between opposite "bent" dipoles) which are at right angles to each other and fed with a common feedline. This will be apparent by studying the instantaneous polar diagrams. It is great not having to be concerned about which path is the correct one to use and, unless I can improve on the triband Yagi, the Criss Cross is now my main antenna.

I would be interested in reports of its use and, of course, egotistical as I am, would have no objection to its name being abbreviated to "CC" as is already being done by my DX friends in comparative tests. Good hunting. **ar**

Living with Lan-Link

A Share-ware Computer Program for IBM & Compatibles for Packet Radio

D W Avard VK4ADY @ VK4CXX, 11 James St, Laidley 4341

THIS COULD JUST AS EASILY be called "Living with Packet" as the two arrived at the same time in my radio shack. My terminal node controller is a PacComm TNC 320, and these are the only packet systems I have used, so no comparisons are offered against them. For other key bashers or phone fanatics, operating packet radio meant learning their two languages, plus improving my typing speed at the keyboard. If this 61-year-old can do it, so can you!

Let me say here and now, I love Lan-Link. I was told I would either loathe it or like it, and it has been touch and go as to which way I was going. The author, Joe Kasser, very clearly states in the book that comes with the program, that it defines the menu functions and **not** how to use it! In version 1.59 (my registered copy) there are three appendices in which he outlines three specific "how to" areas; I hope there are more to come.

My experiences have been:

1) Fitting the Program to Your Equipment and Preferences

There are seven "xxx.SYS" files that configure the program to your station according to the TNC you have. (I'm told that my TNC 320 needs the TNC2.SYS file).

These files are arranged in three parts. The first part is commands, mainly to the program, about your station: its callsign, equipment, local BBS, computer files etc. These commands are **fixed,** only the options are variable.

The second part is a list of 28 entries of figures specifying the coded colours of various parts of the monitor display. These commands are **fixed,** only the options are variable.

The third part is a list of changes to the "DEFAULT" values of whatever commands your TNC recognises, that **you** would like it to use, ie, it is **all variable** and under **your** control.

So this configuration of ".SYS" file contains primarily the values that define your packet station whenever you switch it on. The latter part especially for the first time use. Thereafter, when you switch off, the values in the computer are stored in the battery-backed RAM in the TNC for re-loading into the computer at next switch-on.

Lan-Link Main Menu

ESC
- A QUICK
- B BBS
- C CALLS
- D EDIT
- E EVENTS
- F FILES
- H HELP (F/K)
- J JUMP TO DOS
- K LAN-LINK
- L LOG
- M MESSAGES
- N TNC
- O OSCAR
- P PARAMETERS
- Q Q CODES
- S COMMUNICATIONS
- T TERMINAL
- X EXIT L-L

The author suggests you change as a minimum, the callsign, before running the program on air.

Floppy disk in place, start the program with keystrokes LAN-LINK ENTER. Then, when the packet display comes up, Status window across the top, OUTGOING TEXT window across the bottom, type ESC P 2 YOURCALLSIGN (in capital letters) then ENTER to put your callsign in the program; then ENTER twice more to finish the options for now; then U to amend the file on the floppy disk. Now key ALT X, then Y to exit the L-L program and get back to DOS; then re-load the amended L-L program and your callsign will appear in the Status window.

You can now see his pre-set variations on the program behaviour, from the TERMINAL menu. At switch-on, in that topmost window, the Status window, along with the six-digit clock and your callsign, you will see "DEFAULT" signifying that the values stored in the battery-backed TNC RAM have been set into your computer.

Entering the TERMINAL menu, ESC T will show you options like E-EVERYTHING, T-TRAFFIC, S-SOLO etc, where specific variations to the .SYS file values have been programmed to quickly allow the selection of different display behaviour. As you press a key to make a selection, watch the changes pass through the bottom window (OUTGOING TEXT) ..... BUT, that is dependent on there being a "1" at line 34 of the .SYS file. (Took me a while to understand this).

At any time **you** can re-run that latter third part of the .SYS file to restore those initial values, by the command "INITIALISE" strokes ESC N I.

At switch-on I make it a habit to set the TNC clock to the computer clock with the strokes ESC N D, then the "packets" and files can be time tagged as required.

2) Editing the Operating Files

Editing, or directly changing the entries in L-L files like the .SYS file, is readily done with the built-in EDITOR.

The EDIT menu ESC D allows you to directly select some files or spell out the titles of others for editing. The changed file is "saved" with CTRL K CTRL D. The Editor commands are listed on pages 42 and 43 of the book.

When changes to file parameters are made at the keyboard from various menus, they may be valid only while the equipment is switched on. Because they may not be automatically saved at switch-off. I'm not sure how many are saved with the U (Update) in the PARAMETERS menu.

Be aware that some commands are stored in more than one place at the one time, eg, the "Connect Text" (CText in my TNC language) can exist in four different forms at the same time.

1. "Permanently" in the third part of the .SYS file (which is loaded into the

computer at "INITIALISE" ESC N I).

2. Temporarily in the computer RAM by direct entry from the keyboard in the TNC menu ESC N T "Change CText".
3. In the TNC battery-backed RAM, which holds whatever was in the computer at the time of last switch-off, for re-loading to the computer at the next switch-on.
4. The fourth one is nothing; the default value stored in the TNC ROM! You get this if you remove the battery from the TNC RAM or give the TNC a RESET command.

Which one **you** get is under **your** control only if **you** realise it.

(Joe Kasser says read the L-L book; but there is a lot more to remember).

One thing is that, in general, when L-L files are amended, like the .SYS file at the beginning of this article when your call replaced G8BTB; the modified file bears the name of the old file, which in turn has been renamed "filename.BAK" so it can be recalled if necessary. I like this idea, **but** it needs watching, otherwise your directory of files grows and grows. For instance, when editing a capture to disk (YYMMDD.RUN) file to extract, say a BBS bulletin, you can end up with YYMMDD.RUN and YYMMDD.BAK files! The EDIT menu allows for easy file deletion/erasure, ESC D E filename ENTER.

3. Software/Hardware Interface

With the application of a universal control program like L-L to a specific item of hardware like a TNC320, it's not surprising if there are some gaps or overlaps at the edges.

The command ECHO is a "gap", and in this situation there are two ECHO commands.

The keyboard ECHO ON/ECHO OFF commands are used to control the TNC function of showing on the upper screen what is typed at the keyboard, and have nothing to do with the ECHO ON/OFF toggle in the PARAMETERS menu, which controls the display of computer-generated commands and files in the OUTGOING TEXT WINDOW (remember line 34 of the .SYS file?)

And, with the TNC320 Personal Message System, a gap situation means that the usual TNC commands are entered at the keyboard with normal behaviour because there is not a menu option for this TNC320 function in the TNC2.SYS file.

4. The List of Common Calls

This is stored beginning at line 44 of the .SYS file, one callsign per line. NB: There must be at least one entry. Apart from viewing it in the FILES menu ESC F V, it is available when:

these keystrokes — for — these commands

ESC C C ENTER	CALL/CONNECT TO
ESC C E	ENTER CALL
ALT C then ENTER	CONNECT TO
ESC P 4	ENTER COMMON CALLS

are made.

Whenever the list is displayed in these four ways a flashing cursor is at a blank line heading the list for a new entry to be added.

Any permanent changes to the list need to be recorded in the modified .SYS file. Easiest done in the PARAMETER menu ESC P U. **But,** be aware that each time this is done, the list is **inverted!** If you like to keep your display of calls in the same order, this can be done by invoking the list, ESC P 4 then **updating** the .SYS file, without any change, before making the change and saving it on a second **update.**

5. Menu Behaviour

The menus are deceptively similar; they look alike, but operate in five different ways.

1: Display only (no actions) —
Help & Q CODES

2: Direct selection of a highlighted keyboard character —
QUICK, CALL, EDIT, EVENT, FILES, JUMP TO DOS, LAN-LINK, MESSAGE, TNC, OSCAR, PARAMETER (numeric options), COMMUNICATIONS, and EXIT

3. Toggle a flag to the **opposite** state shown –
PARAMETER (alpha options)

4. Toggle a flag to the state shown —
TERMINAL

5. Edit keys —
LOG

Menus exit with either the SPACE or ESC keys as defined at the screen bottom line, some with a sound.

6. FOUL-UPS I HAVE SEEN (Caused!)
   1. Selecting Change Colours ESC P 8 with a monochrome monitor caused the program to hang up. CTRL C returns you to DOS.
   2. Trying to change Baud Rate with a TNC 320 connected (fixed at 1200) returns Greek characters and rubbish. Switch **off** and remove the battery from the TNC RAM to clear the system.
7. I'D LIKE TO KNOW
   The interpretation of the "Debug or state sequence numbers" of the Miscellaneous Flag ESC P +, pages 21 and 87.
8. THE FUTURE

I hope that more of the obscure points of L-L are made known by others who have used it longer than me, to make it easier for us all to use.

I hope more users of L-L will register their copies, of whatever version, with the author, that he may be encouraged to make packet radio more enjoyable for us all. (They'll get the latest version, too).

Acknowledgments are due to the operators who have encouraged me, with their advice and experience, to press on with L-L.

ar

Novice Licence for 12th Birthday

We would like to congratulate James Brinkhoff VK7PAN of Kelso, who passed his NAOCP exams on 20 November 1991 and received his licence on 10 December, comfortably in time for his 12th birthday on 20 December. Congratulations James! We hope to have a more detailed story (perhaps even a cover photo!) in a later issue of *AR*.

ar

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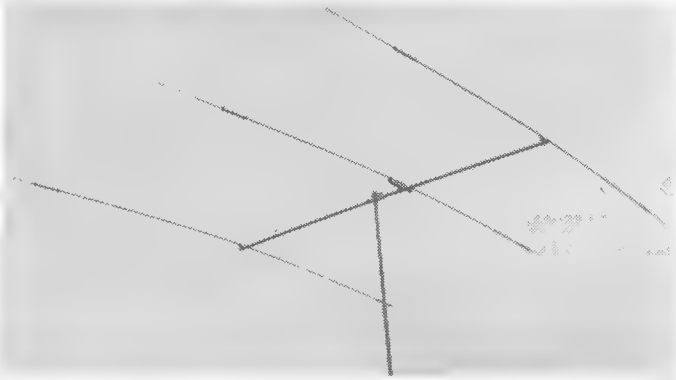

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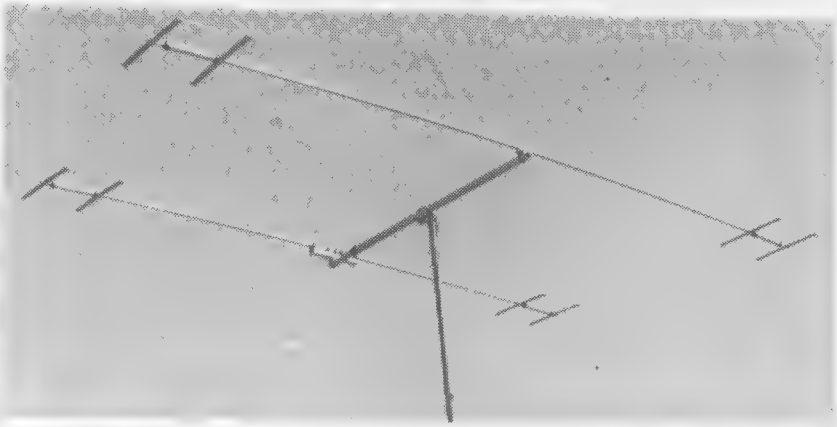
FEED IMPEDANCE 50ohm	TURNING RADIUS 2.74m
WIND SURFACE 0.25m	WEIGHT 9.1kg

VSWR 21 28MHz less than 1.5:1 across band
14MHz 150 kHz less than 1.5:1
250 kHz less than 2.0:1



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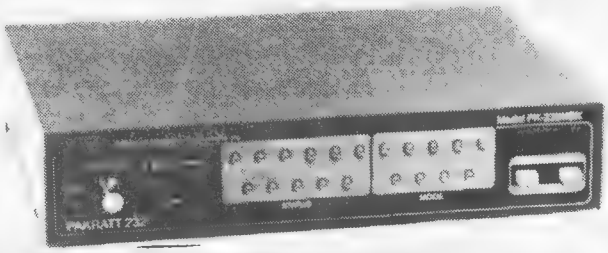

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The Lions Roar in Brisbane

A Report on VI4ILC established by Brisbane North Radio Club at the 74th International Lions Convention

MIKE HOWARD VK4BTS (c/o BNRC PO BOX 78 CHERMSIDE 4032)

WHEN 35,000 LIONS INVADE a city, their roars are certain to be heard a long way off. Brisbane was no exception and amateur radio was there to greet the Lions and spread the message of their convention far and wide via the medium of amateur radio.

Lions Clubs International is the world's largest and most active community service organisation operating in 171 countries with more than 1.4 million members.

The Lions International movement began in Chicago on the 7 June 1917 when its founder, insurance salesman, Melvin C Jones, dreamt of creating an organisation to serve the community and mankind. Today, throughout the world, Lions Clubs participate in many activities, initiating service projects in their own communities as well as banding together to work on global concerns. The organisation provides funds for medical research, education programmes, relief to lesser developed countries and disaster areas, and recreation and youth support activities. In Australia, common activities include fund-raising campaigns for drug awareness, homes for the elderly, education, medical research and natural disasters, such as the Newcastle earthquake relief - to name a few. The 1991 International Convention, the first to be held in the southern hemisphere, was staged in Brisbane from 17 June 1991 for a one-week period.

The purpose of the convention was to gather Lions from all over the world to attend the Annual General Meeting of the Association. More than 39,000 clubs were eligible to send delegates to participate which involves the election of officers and the installation of the International President for the next year.

There are two aspects to the staging of an international Lions Convention:

The first involves the opening and closing sessions, elections, night shows and a ladies' fashion show. Seminars, forums and workshops relative to community life are also included.

The second aspect is tourism oriented, and includes visits to local attractions, pin trading, shopping and participating in local entertainment.

With Brisbane expecting about 35,000 attendees, it was a perfect opportunity to show these visitors what **amateur radio** is all about.

Pat VK4PT and Ted VK4KRR, two of the operators for VI4ILC.

It was on Friday evening, 14 June 1991 (two days prior to the commencement of the convention), in the normal course of the Brisbane North Radio Club's monthly meeting, that Chairman Paul VK4BGT asked if there was any further business. Laurie VK4BLE enquired whether an amateur radio station was to be set up for the Lions Convention. This question set the ball rolling.

Mike VK4BTS then addressed the meeting explaining what was happening within the grounds of the Brisbane Entertainment Centre for "Lions". It was agreed by the members to request approval from the Brisbane Entertainment Centre for "Lions". It was agreed by the members to request approval from the Brisbane City Council Lions Convention Host Committee to man an amateur radio station in the grounds.

At 1900 hours Saturday evening contact was made and, by 1915 hours, approval was given.

The President of the BNRC, Paul VK4BGT, was informed and, within a couple of hours, the tent, equipment, antennas etc had been arranged.

Thanks to News Editor, Bud VK4QY, for managing to have the club's activities mentioned on Sunday morning's WIA news, at very short notice.

By Sunday evening, thanks to Eddie VK4ABX, Bill VK4AZM and Laurie VK4BLE, the tent and the TH3Jnr had been erected, power connected, and all was ready for operation. Club members were contacted by phone and a roster drawn up to staff the station from 0900-1800 local time Monday to Friday. Club members called in to a special net on 28.420MHz at 1930 Sunday to finalise the details.

The DoTC would not have been aware of the activities taking place, but on the Monday morning it was aware that the Brisbane North Radio Club VK4WIN was operating portable at the Lions Convention at the Brisbane Entertainment Centre. Shortly afterwards we were told by David VK4KLV that the DoTC had issued a stamp series commemorating the special callsign VI4ILC. Display materials showing various aspects of amateur radio were supplied by WIAQ.

Monday arrived. The Brisbane Entertainment Centre, Australia's foremost multi-purpose entertainment complex which is the venue for the Brisbane Bullets, major concerts and exhibition/trade events, was about to be besieged by thousands of Lions. The day was, by far, one of the busiest days of the week, with

estimated numbers of 10,000 plus.

Paul VK4BGT, Doug VK4XX, Ken VK4AKQ, Laurie VK4BLE, Kevin VK4AKK, Maria VK4CKK, Alf VK4OL and Mike VK4BTS made the Monday a great start, operating on:

a) HF via a TH3 Jr, three-element tribander;
b) 2m via a home-brewed Slim Jim;
c) RTTY via HF

The Brisbane North Radio Club operators sparked off a week of huge pile ups.

Laurie VK4BLE worked Europe and State-side long path that afternoon — what a pile up! When he was told it was time to go, would he shift? — No way. He was having too much fun! Monday afternoon also saw another good exercise being done for amateur radio. Australia Post issued a stamp series commemorating the golden days of radio. As part of a WIAQ display at the Brisbane GPO, David VK4KLV conducted a conversation via the VK4RAG repeater with Paul VK4BGT at the VI4ILC site. Paul, using a 2m handheld radio, operated from the Entertainment Centre's roof, 23 metres above the ground. This two-way communication was put to air on the Garry Fleets afternoon show on local ABC radio station 612 4QR.

Throughout the week, Cress VK4AK, Ted VK4KRR, Noel VK4BIF, John VK4APZ, Graham VK4BGC, Bob VK4ACL, Richard VK4KEZ, Eddie VK4ABX, Bruce VK4AMV, Ken VK4AKQ and Trevor VK4ATS worked on phone and CW. Doug VK4XX RTTY, and our ladies, Pat VK4PT and Bev VK4NBC, certainly tempted many to their sets.

For 40m and 80m operations, a long, long wire was thrown up — we could not let DX operators be the only ones in on this special event station. Australians were to have their fair slice of the cake too.

All bands for novice and full call were used by both CW and phone.

Tuesday was taken up by a Lions Parade in the city which attracted a huge crowd and lasted for approximately four hours.

The Wednesday, not only for Lions attendees but for radio conditions, proved to be a great day. Laurie VK4BLE and Mike VK4BTS went into the night. The dampness of being located next to the lake certainly brought the temperature down. thanks go to Alison (Laurie's XYL) for supplying the thick jackets and blankets which helped them survive.

The atmosphere was like Expo '88. Although we didn't get 35,000 people into the tent, they certainly saw the beam!

The number of visitors to the tent was tremendous. There was certainly a good number of licensed operators who called in, including those from interstate and many overseas countries. There were a large number of non-amateurs wondering what we were doing. They were certainly enlightened by the time they left! A good number of those we felt genuinely would be pursuing the hobby further.

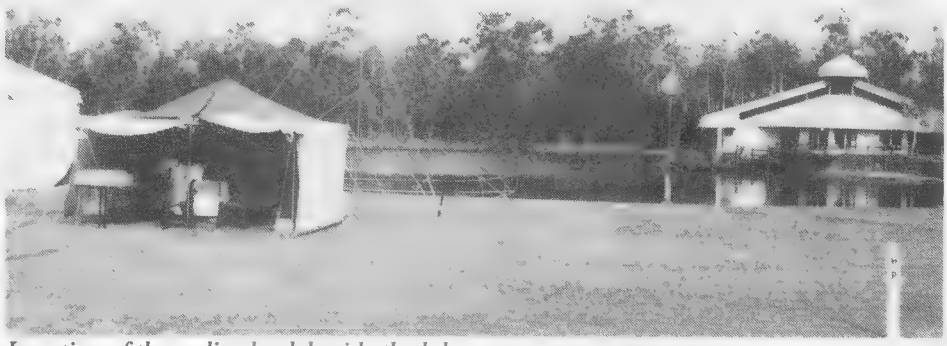
Altogether, 800 contacts were made by the operators using VI4ILC, and QSL cards will be forwarded via the bureau.

All in all, it was a great week. Praise should go to the BNRC members for the way they all pulled together so successfully.

It was certainly a coup for amateur radio to have 35,000 people in an area where a station was operating. How could you not fail to show the world what this hobby is all about! It is the rare combination of communication, friendships, education and, as we are all aware, an interesting pastime.

The weather for the convention was warm and sunny. Locals and visitors alike enjoyed the open-air activities, including our own off-duty operators who fell to the temptations of sampling the "shrimp on the barbie" and Bundaberg's non-alcoholic "punch". Bev, Eddie and Ted certainly made the rounds! At 1600 hours Friday, rain started to fall just as 6000 Lions departed from their last function at the Centre, as if in sympathy with all the Lions who were saddened that one of their greatest conventions ever was about to close.

ar



Location of the radio shack beside the lake.

Part of the crowd at the convention.

A History of the Ionospheric Prediction Service and the Radio Amateur

FRANK HINE VK2QL 30 ABBOTSFORD RD HOMEBUSH 2140

INITIALLY, MY FIRST knowledge of the IPS was received during WW2 when the RAAF sent me to Port Pirie as Signals Officer. In the office was a document from the IPS known as Series P. In it they invited comment from anybody with problems. One night we experienced poor propagation to aircraft on an exercise. I wrote to IPS and advised them of the problem. They acknowledged receipt and added it was the only report received. They supplied predictions to RAAF units that were involved in radio communications. I was at Wagga later and we had a 24-hour circuit to Air Force HQ. We had predictions to permit 24-hour communications. It was normal to change to the evening frequency as predicted. One day, the HQ station did not change, so I requested a change. They said "no". Half an hour later, all communication was lost and did not come back for two hours, on the night frequency.

After the war, I came back to Sydney and joined the team doing the Sunday broadcast. One day, propagation was very poor, country stations had difficulty copying VK2WI, and I also had difficulty reading them. During the week, I asked IPS if it would supply Dural with a forecast for the broadcast. It was agreed that the WIA would be added to their list. At odd times on the Sunday morning, I would get a phone call from IPS, "was there a broadcast, as no reply". But there was only one on duty at IPS, and he either rang too early or the operator was late. There never was a missed broadcast.

As time went on, the IPS segment in the weekly broadcast was increased. If the amateur band was disturbed, I would ring a friend at IPS and ask, "Who pulled the plug out?" and he would give me the details. At that time, the NSW Division held its meeting at Crows Nest, with occasional lectures. Mr Cook agreed to give lectures to the meeting. It came time for Mr Cook to retire from IPS. I rang him on the date he was leaving, to thank him for all he had done for the WIA. His reply was, "As far as I am concerned, you are the WIA." IPS propagation information is now able to be found on telephone (02) 414 8330. I have never had a request to IPS refused, and there have been many.

After the war, there was an intruder on the 14MHz band. I contacted Mr McCue at IPS and let him hear it. He asked me to tape it and send it to him. He called back and said it contained intelligence, but he would investigate further. A couple of days later, he rang and said it was an American station, and it had been directed to close. They were never heard again.

A friend of mine in Brazil, interested in propagation, said he was going on a trip to PY0, and could I get a prediction from there to Australia? The prediction was in the mail two days later, with a request to know how it went. Unfortunately, the sponsor withdrew.

Quite early in my amateur career, a friend N4AR was interested in propagation, and it was arranged with IPS that I receive long and short path predictions to Kentucky. These were sent to him on receipt on 7MHz CW. Another, who was in Zurich, told me the IPS prediction he was getting on 28MHz was predicting closure two hours earlier than in fact. I mentioned this to IPS and was asked to submit a full report. This was done by HB9QO. They checked and, as a result, amended their predictions.

In 1950-1960 I obtained predictions for various overseas areas, and I used to make these up in graph form for inclusion in *Amateur Radio*. Unfortunately, the cost of the blocks for them to be continued was too high. In 1966, I was requested by the Publications Committee to write an article for *Amateur Radio* on how to read the predictions. This was done, and, for the article, the NSW Division awarded me the Adams Trophy. Being transferred from time to time, I could not keep handling the predictions for *AR*, but they were continued by Len Poynter VK3ZGP. I continued with articles on propagation which were discussed with Mr McCue. Len included with his predictions information from Zurich Observatory.

One day, I happened to be listening to Radio Australia, and it said the propagation forecast was coming on. This was the first time I had heard it, so I told a lot of my overseas contacts about it. Unfortunately, to their sorrow, Radio Australia discontinued the propagation report.

The name has been changed to IPS and Space Services. Periodically they provide courses of training, and various organisations are sent details of the course. I do not know if other WIA Divisions receive copies, but the NSW Division and I get them. Due to illness, I am now unable to go.

The courses run by IPS and Space Services are on ASAPS (Advanced Stand Alone Prediction System). Hardware required: IBM PC XT/AT or compatible; 512K hard disk; EGA/VGA and maths co-processor recommended; Hard copy predictions now cost $350 per copy. The address of IPS Radio and Space Services is PO Box 1548, Chatswood 2057. At present the predictions are being handled by the Apogee Group and VK2ZTB. The full IPS report is given on all VK2WI broadcasts, both day and night. The frequencies used are listed in *AR* each month ar

Remember to leave a three second break between overs when using a repeater.

Oceania Commodore Library — Information for the User

JOHN BEARSBY VK6YBP PO Box 404 FREMANTLE 6160

THE OCEANIA COMMODORE Library was formed because of a need to distribute uncorrupted programs for the C64/C128. This avoids clogging HF networks with multi-part bulletins of text files or programs that may take valuable air time and in the process lose only one character and thus render the program useless. This would require the entire program to be sent again and create more holdups of personal mail and other bulletins of interest to amateurs.

In March 1991, the library was formed and the first bulletins were issued. Since then, many requests from all over the world have been received for programs and information on how the library operates and how to obtain programs. Also, requests for technical assistance are received to solve problems with modems, wiring to the computer, and hints on getting the best out of computer programs. Updates on digiprom and other software becoming available as people are hearing more about the Oceania Commodore Library.

The library is available to all amateurs and is a non-profit service to those who wish to utilise it and obtain programs for their own use.

This service is run on a cost basis and is self-supporting. Improvements in the running of the library are made as is necessary, and any donations of software, postage stamps, disks or other materials go towards acquiring more software.

The library only has public domain, freeware and shareware programs, as well as the digicom program, which is copyright but for free distribution.

There is no cost for the programs supplied by the library, only for the cost of the medium (disk), packaging and postage.

For further information on ordering, please read the **how to order** information which is available on request if not on your local bulletin board, club newsletter or magazine, at your local hamfest or radio club library.

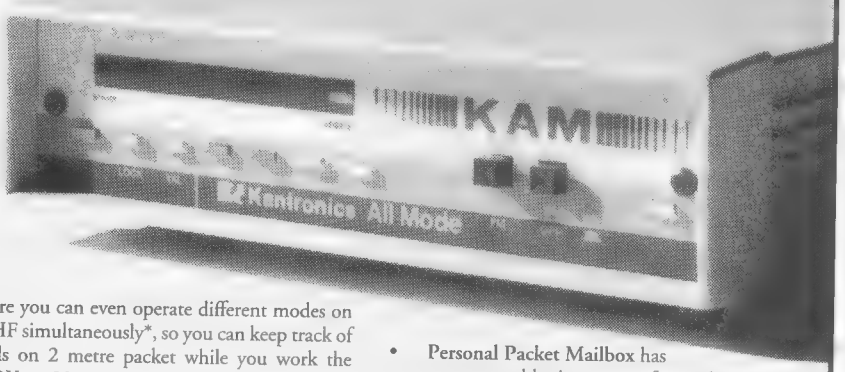
If you require any assistance whatsoever, please don't hesitate to contact the library by packet: VK6YBP @ VK6XPS, or by mail: The Oceania Commodore Library, PO Box 404, Fremantle 6160.

All enquiries are welcome. Orders will take priority over requests for information only, but will be answered in order of arrival. Please allow 14 to 21 days for a reply. See next page for list of programs available.

I look forward to being of assistance to you if at all possible.

Best wishes to you from the Oceania Commodore Librarian.

For the discerning amateur - the Kantronics All Mode Data Controller



When the power, flexibility, and performance to do your best with todays digital modes is what you need — then their can only be one answer — the KAM.
With dual radio ports, one especially tailored for VHF/UHF operation and the other especially for HF use, the KAM offers more flexibility than any other multi-mode data controller on the market. Advanced single chip modem technology for VHF packet with the option of a 2400bps upgrade gives you tremendous performance. Sophisticated, computer controlled, filter and threshold demodulator technology for RTTY, AMTOR, NAVTEX and CW gives you direct control over what is happening without sacrificing the user friendliness of this unique product.

What's more you can even operate different modes on VHF and HF simultaneously*, so you can keep track of your friends on 2 metre packet while you work the AMTOR DX on 20 metres!

- **Software carrier detect** for reliable open squelch operation.
- **Full duplex** capability on VHF port.
- **AMTOR** supports 4, 7 & 9 character selcals of CCITT 625 and 476 operation with relinking.
- **RTTY/ASCII** provide user definable Mark & Space tones.
- **MYAUTOST** command allows for unattended operation.
- **Personal Packet Mailbox** has programmable size, reverse forwarding, TO field editing, mail waiting indicator.
- Automatically transfer connects to PBBS.
- CW at 5-99 wpm with selectable centre frequency and bandwidth.

* Requires Hostmaster II software and IBM-PC type computer

$670 inc tax plus $12 freight in Australia

From Australia's exclusive Kantronics representative!

Stewart Electronic Components Pty. Ltd.
ACN 004 518 898
44 Stafford Street Huntingdale : PO Box 281 Oakleigh 3166
Phone (03)543-3733
FAX (03)543-7238

Greetings to all C64 users. Here is the start of the listings for the Oceania Commodore Library.

Please watch for further bulletins as they will be under the same heading as this one: C64LIB.

Thank you and I hope these are of assistance to you.

Catalogue D is the last in the series of listings, as that is all the programs on hand at the present time; so now it is up to you.

If you see a program listed and you have some documentation for it, would you be kind enough to donate it to the library so other users may also have a copy of this material to help them with their copy of the program.

The library needs your assistance to build up the stock of programs, so if you have any you would like to donate, please feel free to do so.

If you read my "how to order" bulletin it will advise of a free pick of the library programs in return for your donation of programs not already listed. If you donate any software, please ensure the copy you are providing is a good working copy of the program by running and checking it. This is most important as I cannot accept programs that won't run because they simply were not copied error-free. It is best to verify all copied programs. Please help me provide a better listing and service for everyone.

Cheers de John VK6YBP @ VK6XPS
Oceania Commodore Librarian

Catalogues A & B

Disk information:
F/S — Program requires full side of disk.
D/S — Program requires both sides of disk.
Please note: Disks will be notched (both sides used) unless otherwise stated with order.
Program documentation:
N/A Not available
N/R Not required
O/D On the disk
S/S Single sheet
M/S Multi-page document @ 50ç each
Please ensure your order is correct before sending.

Size	Program Name	Brief Description	Documentation
44	1-40 EL YAGIS	for that antenna farm you want	N/R
35	2 EL QUAD	good gain antenna	N/R
27	2 WIRE ANTENNAS	hf or vhf	N/R
75	ANTENNA DESIGNS		N/R
153	ANTENNA PROGRAM	various design types	N/R
6	BEAM LOBE ANGLE	know your antenna radiation pattern	N/R
5	DELTA LOOP ANTENNA	for the larger back yard	N/R
4	DIPOLE ANTENNAS	for single elements	N/R
9	GAMMA MATCH DES	for single elements	N/R
15	HAM ANTENNAE	various	N/R
15	HAM ANTENNAE	various	N/R
4	HELIX ANTENNAE	for satellite work	N/R
3	HF DIPOLE DESIGN	very simple program	N/R
20	LOADED DIPOLE	very simple program	N/R
42	LOG BEAM ANTENNA	good design program	N/R
17	LOG-PERIODICS	good design program	N/R
10	LONG LOOP YAGIS	for uhf/shf	N/R
14	LPDA	another log periodic design	N/R
50	NBS STANDARD DES	proven designs	N/R
17	POWER DIVIDERS	make your own home brew	N/R
2	SINGLE EL DESIGN	driven element design	N/R
3	SLIM JIM	for small space and ease of construction	N/R
3	t match	antenna matching system	N/R
29	VERTICAL ANTENNA	for the mobile or home	N/R
26	WIRE ANTENNAS	various	N/R
10	YAGI + BALUN DES	very useful balun info	N/R
27	ANTENNA SCALER	scale your old antenna to a new freq	N/R
0	YAGI DESIGN	first class vhf/uhf design	F/S N/R

End of antenna programs.

Catalogue B

Size	Program Name	Brief Description	Documentation
2	AC POWER COST	calculate your power bill	N/R
3	AIR CONDITION	keep cool with this one	N/R
2	BASE CONVERSION	from 2 to 20	N/R
34	C/L CONVERSION	good for coil designing	N/R
24	CAD TRANSFORMERS	build basic supplies	N/R
2	CAPACITOR CALC	parallel, series etc	N/R
10	CIRCUIT ANALYSIS	for digital CCTs	N/R
4	COAX DIPOLE	for portable use	N/R
5	COIL CALC	coil design	N/R
2	DIVIDER L/C	divider networks	N/R
20	ELEC FORMULAS	various, excellent	N/R
17	ENG 555	timer CCTs	N/R
14	FORMULA	various ohm law	N/R
5	H/F L/P FILTERS	this will help stop tvi	N/R
5	HIGH PASS FILTER	for the tv	N/R
2	LOW PASS FILTER	another one	N/R
6	MICROSTRIP CALC	for uhf	N/R
4	NETWORK PROGRAM	resistor networks	N/R
4	OHM'S LAW	short version	N/R
4	POLYNOMIAL PROG	for the experts	N/R
6	REFLECT VSWR	chart conversion	N/R
7	RES PI-ATN N/W	useful for tuning up rigs	N/R
41	RESISTANCE-PROG	excellent	N/R
46	SMITH CHART V2.0	more for the experts	N/R
2	VECTOR ADD PROG	more for the experts	N/R

End of formulae.

Catalogues C & D

Disk information:
F/S — Program requires full side of disk.
D/S — Program requires both sides of disk.
Please note: Disks will be notched (both sides used) unless otherwise stated with order.
Program documentation: N/A Not available
N/R Not required
O/D On the disk
S/S Single sheet
M/S Multi-page document @ 50ç each
Please ensure your order is correct before sending.

Size	Program Name	Brief Description	Documentation
46	BM V2.2	bit machiner	
32	BM-MANUAL	+ + program manual	
13	CALL BOOK	fairly easy to run	N/A
49	CONTEST LOG II	another good log prg info not really req	N/A
74	DA	directory manipulation and more	N/A
26	DISK ORGANISER	does many things	N/R
6	DISK RENAME	does many things	N/R
4	DISK RESTORER	restore scratch files	N/R
11	DX BEAM HEADINGS	directional info	N/A
8	EDIT	scratches unwanted prg & files	N/R
11	FILE PARAMETERS	lists details of files + prg/s on disk	N/R
19	FILE PROTECT	write + unwrite-protect a disk	N/R
21	FILE RENAME	saves lots of time	N/R
8	FILE RESTORER	for single files (similar to disk restore	N/R
49	HETI VHF C. V2.0	new contest program from YU	O/D
23	HETI MANUAL	manual for above	
37	JACKET MAKER	makes a disk cover with program printout	N/R
41	NEW RD	contesters log program	N/R
40	RD CONTEST LOG	contesters log program	N/A
6	SCRATCH FILES	ditto	N/A
8	UNSCRATCH	ditto	N/R
0	DIGICOM 3.51A	new hf version, unaffected by noise.	F/S O/D

Note: The Oceania Commodore Library is an official Digiprom Copier, authorised by the JSM Group, authors of Digiprom.
End of utilities.

Catalogue D

Size	Program Name	Brief Description	Documentation
48	COSMOS CONV	converts amsat data to uosat format	N/R
92	COCMOS V2.6	main program for tracking	N/R
4	KEPCONV MANUAL	manual for above	
61	KEPCONV V2.3	provides data for tracking	O/D
34	LOCATOR C64	bearings program	N/R
8	SIDEREAL TIME2	use with satellite tracking progs	N/R
19	PLAN10/80	oscar tracker, 80col, use with screen 80	N/A
22	PLAN10/40P	40 column version of above	N/A
11	SUN LOCATION	ditto	N/R
56	UOSAT11/DECODE	decoder program; no inf as yet	N/A
33	COSMOS 2.DAT	data file for cosmos program above	N/R

End of satellite programs.

Commodore Oceania Net Library
Library Ordering Information

How to Order

Disk size catered for: 5.25 inch 660 blocks per side
Cost: $3.00 each
Disk price **includes** disks, packaging and postage. Overseas orders: prices are in $US, except NZ — you can send Oz notes.
At this time, programs are (not compressed). In this case, the sizes you see on the various lists are those you should consider when you make up your program order.

Do not send me blank disks — the above price **includes** the disks. I am not allowed to make any profit to conform with the permission granted by DoTC. This service will be run on the same basis as the IBM Library of VK2BBD Les. I handle only programs/files for the C64/128. If you have any queries re IBM files/programs, please send a message to Les VK2BBD @ VK2BBD, NSW.AUS.OC.

When making up your order for the library, consider these points:

1. Disks can contain only 660 blocks per side.
2. If you have programs totalling 700 blocks for sending on a 660 block per side capacity disk — sorry! That will use two sides — whichever way you juggle it. Better to find some more programs to fill the disk usefully — I don't mind. The same rules apply to **all** disks.
3. **Any** station thinking I am making a profit on this service, please let me know where I am going wrong, as I haven't yet made that grade! **This is a non-profit service to amateurs, not a business.**
4. Having seen the library lists, if you have FREEWARE/SHARE programs which you think would be useful additions to this library, please feel free to send them on to me. I usually offer you free choice of the library for such donations — this is the way the system improves. Please provide the instructions or manuals, if available, or, if a short file can be included for the recipient, this will help greatly.
5. Any suggestions for improving this library format would be welcomed. I am open to ideas for improvement or change ...
6. Bulletins will be sent out approximately every four months with updates when new software or updated versions arrive, and are available to order.
7. Please send me your software donations as soon as possible, and help me to provide a service that is second to none.
8. If you send me a letter requesting information, please include a normal business-sized envelope to put the information in, and a stamp to cover return postage. I simply do not have the funds to cover these postage costs.
9. Disclaimer. All care taken, but no liability will be accepted.

Mail address:
John Bearsby,
PO Box 404
FREMANTLE 6160..
Via packet: VK6YBP @ VK6XPS. #PER.#WA.AUS.OC.

CHEERS DE JOHN VK6YBP,
OCEANIA COMMODORE LIBRARIAN.

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New APLINK Service: VK1BBS

RICHARD JENKINS VK1RJ PO Box 101 CHARNWOOD 2615

A new APLINK service for users of VHF packet and HF AMTOR has been established in Canberra. APLINK is a bulletin board and mailbox system providing an automatic interchange of mail between the national packet network and an AMTOR station on HF Radio. On the packet side it looks very similar to the packet BBSs you are used to. On AMTOR it's a fully functional mailbox with private messages, bulletins and store and forward facilities to both networks.

This system was developed for those amateurs in rural areas of south-eastern Australia who are unable to access the national packet network. It provides these stations with a mailbox and forwarding facilities. Coverage area is the south-east of Australia for AMTOR and the Canberra region for VHF packet. The system allows for automatic forwarding of messages via VK1KCM's bulletin board to the packet network.

VK1BBS is currently an experimental service using low power (30 watts) and a dipole antenna on 40 metres. The system may be accessed by calling VK1BBS on AMTOR ARQ mode with a Selcal of VBBS. The carrier frequency is 7035kHz (tuning frequency 7037.1kHz LSB). On the packet side, VK1BBS operates on 147.575MHz and can be reached via VK2RPT-1 for those outside the Canberra region.

While this system is experimental, the sysops will be analysing its use and exploring enhancements to the services provided. Hours of operation may vary due to these developments. However, the sysops will endeavour to keep the system online from 8am to 7pm.

Comments on the services provided by this system would be greatly appreciated. Should you require further information or wish to provide any comments, the sysops Gavan VK1EB and Richard VK1RJ may be contacted by forwarding mail to VK1BBS @ VK1BBS. ACT.AUS.OC. or by writing to:

SYSOP VK1BBS
PO Box 101
CHARNWOOD 2615.

So, how about it? Make a new year's resolution and give AMTOR a go. Everyone is welcome at VK1BBS!

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Photocopies of any article published in a back issue of AR are available to members at $2.50 each (plus $2.00 for each additional issue in which the article appears)
AR Articles, PO Box 300
Caulfield South Vic. 3162

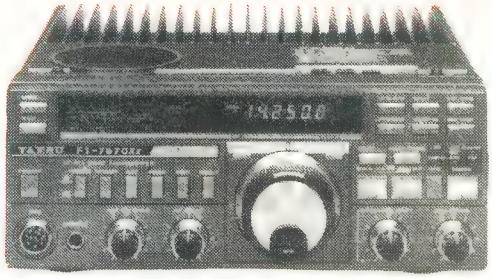
BEAT THE PRICE HIKE!

FT-747GX BUDGET H.F. TRANSCEIVER

The FT-747GX is a compact SSB/CW/AM and optional FM transceiver providing 100 watts of PEP output on all 1.8-30MHz amateur bands, and general coverage reception from 100kHz to 30MHz. Convenient features include a front panel mounted speaker and easy to read digital display, dual operator selectable tuning steps for each mode, dual VFO's for split frequency operation and 20 memory channels (eighteen of which can store spilt Tx/Rx frequencies). Wideband 6kHz AM, and narrow 500Hz CW IF filters are also fitted as a standard feature. Includes Yaesu MH-1 hand microphone.

Cat D-2930

2 YEAR WARRANTY! **$1199**



Our Most Rugged HF Mobile Transceiver!

FT-757GX II ALL MODE HF TRANSCEIVER

Ready for action! Whether in a demanding H.F. mobile situation, or at home in the shack, the FT-757GX II won't let you down. Based on its popular predecessor, it features the heavy duty die-cast heatsink and rugged metal chassis of the earlier 757GX, but has been upgraded to offer a number of new features. These include...

- All mode operation — SSB, CW, AM, FM(160m-10m)
- 100 watt output on SSB, CW, FM (25W AM) at 100% duty cycle
- High performance general coverage receiver — 150kHz to 30MHz
- Dual VFO's with single button VFO/memory swap functions
- Memories store freq. and mode, plus provide band scanning.
- Inbuilt 600Hz CW IF filter, IF shift and IF notch filters, variable noise blanker, Speech Processor, iambic CW keyer, and SWR meter.
- Includes MH-1 hand microphone.

Cat D-3492

2 YEAR WARRANTY! *SAVE $100* **$1695**

FT-212RH MOBILE 2m FM TRANSCEIVER

BUY NOW AND SAVE

With 45 watts output over the 144-148MHz range, a rugged diecast chassis for superb RF isolation, extensive use of surface mount components, and a large back-lit LCD with bargraph PO/S-meter. The FT-212RH is an ideal mobile FM transceiver that also doubles as an easy to use base station. Features include 5 selectable tuning steps, a total of 21 memories (18 general purpose, one CALL-channel, and 2 sub-band limit memories for band scanning), inbuilt C.T.C.S.S. encode, as well as a variety of scanning functions. The FT-212RH comes with a mobile mounting bracket, convenient MH-14A8 microphone, and DC power lead.

Cat D-3494

2 YEAR WARRANTY! **$499**

FT-4700RH 2m/70cm MOBILE FM TRANSCEIVER

OUR BEST EVER PRICE

2 YEAR WARRANTY!

Features 50 watts output on 2m, and 40 watts output on 70cm (430-450MHz), with Full-duplex crossband operation or dual-band reception modes, you can listen for calls on both bands simultaneously, or work someone on one band while listening on the other. The optional YSK-4700 extension cable allows the main body of the transciever to be installed remotely, while the front panel mounts conveniently on the dashboard. The amber back-lit LCD shows both VHF and UHF frequencies and signal strengths, and all controls are back-lit for clear readability, with a dimmer switch for nightime viewing. A total of 20 memories and 5 selectable tuning steps make frequency selection easy, while the advanced scanning features allow quick detection of signals on either, or both bands.

Cat D-3300

Cat D-3301 YSK-4700 extension cable $49.95

$899

YAESU

Sole Authorised Australian Distributors

Important Notice

The Aussie dollar is dropping in value, so don't miss your opportunity for a quality Yaesu rig while they're still at these great value prices.

DICK SMITH ELECTRONICS

YAESU STOCKS NOT HELD AT ALL STORES. PLEASE CONTACT YOUR LOCAL STORE FOR STOCK AVAILABILITY, OR ORDER BY PHONE 008 22 6610 B1283/PB

The Tradition Continues...

YAESU FT-990 HF ALL-MODE TRANSCEIVER

Take a quick look at the all-new FT-990 and you'll soon see the similarity to the top-of-the-line FT-1000... and for good reason. The incredible FT-990 embodies many of the advanced features and ease of operation of the FT-1000. But in a more compact, economical package that sports several new advances in both transmitter and receiver design.

Cat D-3260

$3295

Designed For Easy Operation

Just like the FT-1000, Yeasu have designed the FT-990 to be as easy as possible to operate. The front panel layout puts all frequently used controls right where they should be.... at you fingertips. All controls are clearly labelled and the digital display provides an abundance of information in an uncluttered and easy to read format. The front panel keypad offers one-touch band selection (160m - 10m) with 2 independent VFOs per band and 90 memories that store the operating data held in both VFOs. You can't help but appreciate the large back-lit analogue meter rather than those confusing bar-graph meters found on other transceivers.

Unique Features

- Customizable RF Speech Processor - Yaesu's unique Frequency Shifted Processor (FSP) lets you shift the IF passband of you transmitted SSB signal to provide maximum punch with your voice/microphone combination.
- Digital Audio Filtering - Razor sharp audio filtering is available for tough SSB and CW reception conditions through the use of an astounding dual digital Switched Capacitance Filter (SCF) with independently adjustable selectivity skirts.
- Packet/RTTY - Separate interface jacks for a RTTY terminal unit and a Packet TNC are provided, while the mode selection buttons disable the mic automatically in the digital modes.

Direct Digital Synthesis (DDS)

Two 10-bit DDS and a magnetic rotary encoder provide silky-smooth VFO tuning, pure local oscillator signals, and very fast Tx/Rx change-over... and that's very important for QSK CW and digital modes. The DDS is teamed with an extremely low-noise, high performance receiver front-end using a PIN-diode controlled push-pull RF amplifier followed by a quad-FET ring mixer. The result is a very wide receiver dynamic range from 100kHz to 30MHz. Transmitter signal purity is also enhanced, with circuit noise nearly 90dB down from the carrier.

Convenience Features

- A highly efficient AC switch-mode power supply is built-in. It allows high duty-cycle transmission while keeping the weight way down, saving space and the added expense of external power supplies.
- An in-built Automatic Antenna Tuner with 39 memories is standard!
- Modular construction maximizes selectivity and makes servicing easy.
- Effective interference rejection is facilitated by IF shift, IF notch, IF bandwidth, and SCF audio controls.
- An adjustable noise blanker, a 500Hz B/W IF crystal filter and a comprehensive, easy to read user manual are also supplied.

STORE LOCATIONS:

NSW • Albury **21 8399** • Bankstown Square **707 4888** • Blacktown **671 7722** • Brookvale **905 0441** • Bondi **387 1444** • Campbelltown **27 2199** • Chatswood Chase **411 1955** • Chullora **642 8922** • Gore Hill **439 5311** • Gosford **25 0235** • Hornsby **477 6633** • Hurstville **580 8622** • Kotara **56 2092** • Liverpool **600 9888** • Maitland **33 7866** • Miranda **525 2722** • Newcastle **61 1896** • North Ryde **878 3855** • Orange **618 400** • Parramatta **689 2188** • Penrith **32 3400** • Railway Square **211 3777** • Sydney City **267 9111** • Tamworth **66 1711** • Wollongong **28 3800** **ACT** • Belconnen **(06) 253 1785** • Fyshwick **80 4944** **VIC** • Ballarat **31 5433** • Bendigo **43 0388** • Box Hill **890 0699** • Coburg **383 4455** • Dandenong **794 9377** • East Brighton **592 2366** • Essendon **379 7444** • Footscray **689 2055** • Frankston **783 9144** • Geelong **232 711** • Melbourne City 399 Elizabeth St **326 6088** & 246 Bourke St **639 0396** • Richmond **428 1614** • Ringwood **879 5338** • Springvale **547 0522** **QLD** • Brisbane City **229 9377** •Buranda **391 6233** • Cairns **311 515** • Capalaba **245 2870** • Chermside **359 6255** • Redbank **288 5599** • Rockhampton **27 9644** • Southport **32 9033** • Toowoomba **38 4300** • Townsville **72 5722** • Underwood **341 0844** • **SA** • Adelaide City **223 4122** • Beverley **347 1900** • Elizabeth **255 6099** • Enfield **260 6088** • St. Marys **277 8977** **WA** • Cannington **451 8666** • Fremantle **335 9733** • Perth City **481 3261** • Midland **250 1460** • Northbridge **328 6944** **TAS** • Hobart **31 0800** **NT** • Stuart Park **81 1977**

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DICK SMITH ELECTRONICS

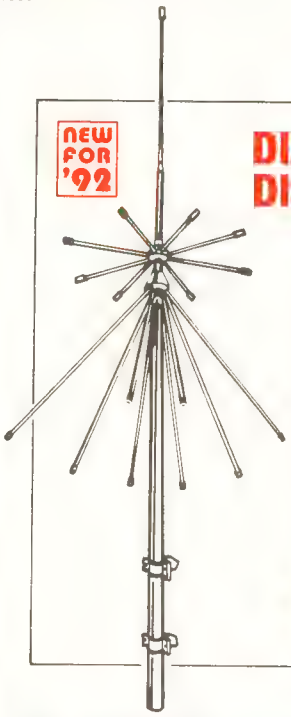
B1297/LB

HF/6m POWER/SWR METER

A superb wideband SWR/Power meter which boasts quality Japanese construction and a truly accurate P.E.P. metering circuit (unlike many 'other' so called P.E.P. monitor systems). The Revex W502 features solid construction with an all-metal case and a large back-lit meter... and it covers the 1.8 to 60MHz range with less than 0.1dB insertion loss. With 20W, 200W and 2kW power ranges and LED indicators which show average or P.E.P. operation. Requires 13.8V DC @ 200mA power supply.

Cat D-1360

$199



NEW FOR '92

DIAMOND D-130J DISCONE ANTENNA

This quality Japanese discone antenna covers the frequency range 25-1300MHz, and was designed to be easy to assemble and install. The extensive use of stainless steel in the D-130J makes it very durable, while allowing transmission on the 6m, 2m, 70cm, and 23cm bands with a maximum power rating of 200W PEP. Comes complete with mast mounting hardware and instructions.

Cat D-4840

DIAMOND ANTENNA

$169

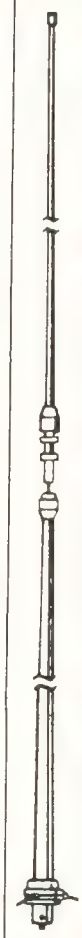
ST-7500 DUALBAND MOBILE ANTENNA

NEW FOR '92

At last, a high performance dualband mobile antenna at a down to earth price. The ST-7500 is just 1metre long and uses a ground independant design to provide high gain (3dB on 2m, 5.5dB on 70cm) with a maximum power rating of 150W. Quality Japanese construction together with a tiltable whip structure make this an ideal antenna for the discerning mobile operator. Requires SO-239 antenna base (D-4035 recommended).

Cat D-4810

$79.95



DIAMOND VHF/UHF BASE STATION ANTENNAS

These high quality, vertically polarised base station antennas are ideal for the discerning Amateur operating on the 2m, 70cm or 23cm bands. They're beautifully constructed Diamond brand antennas from Japan which provide high gain for maximum range. Constructed from robust F.R.P. tubing for excellent all-weather operation, with ground-plane radials for a clean radiation pattern.

2m ANTENNA F-23A

DIAMOND ANTENNA

Frequency: 144 —148MHz
Gain: 7.8dB
Max. Power: 200W
Max. Wind Speed: 144km/h
Length: 4.53m
Type: 3 x 5/8 λ co-linear

Cat D-4850

$199

2m/70cm ANTENNA X-200A

Frequency: 144 — 148MHz, 430 — 450MHz
Gain: 6dB on 2m, 8dB on 70cm
Max. Power: 200W
Max. Wind Speed: 180km/h
Length: 2.5m
Type: 2 x 5/8 λ(2m), 4 x 5/8 λ(70cm)

Cat D-4860

$199

2m/70cm ANTENNA X-500A

Frequency: 144-148MHz, 432-450MHz
Gain: 8.3dB on 2m, 11.7dB on 70cm
Max. Power: 200W
Max. Wind Speed: 144km/h
Length: 5.2m
Type: 3 x 5/8 λ(2m), 8 x 5/8 λ(70cm)
Connector: N-type socket

Cat D-4865

$299

Limited Stocks!

23cm ANTENNA F-1230A

Frequency: 1260 — 1300MHz
Gain: 13.5dBi
Max. Power: 100W
Max. Wind Speed: 144km/h
Length: 3.06m
Type: 25 x 1/2 λ co-linear
Connector: N-type socket

Cat D-4870

$249

Limited Stocks!

2m 1/2 WAVE BASE STATION ANTENNA

MOBILE ONE

An outstanding value for money, compact, Australian made base station antenna which is only 1.69m long. It uses a single section F.R.P. radome for excellent all-weather operation and covers 144-148MHz with less than 1.5:1 SWR. The antenna provides approximately 3dB gain with a maximum power handling of 200W FM. It's fitted with an SO-239 socket mounted into the base for easy coax connection and comes with a 5 year warranty.

Cat D-4820

$49.95

DICK SMITH ELECTRONICS

B1297/LB

AWARDS

JOHN KELLEHER VK3DP – FEDERAL AWARDS MANAGER

The Holyland Award Scheme

The "Holyland Award" is a special plaque issued by the Israel Amateur Radio Club (IARC) to both licensed radio amateurs and SWLs. The plaque is awarded for achieving basic requirements after 1 January 1992. Stickers will be attached to the basic award after improving the achievements. QSL cards are not required, only log entries!

Basis of the Award

The award scheme is based on the geographical and administrative division of the Holyland. The country is divided geographically, by the Survey of Israel Department, into a grid system resulting in squares of 10x10km. These squares are defined by a letter and two numbers which are relevant coordinates, ie E-14, H-08 etc.

The country is divided for administrative purposes into 23 regions. The boundaries of these regions are drawn arbitrarily. An "area" is made up from the square and the region. For example: E-14-TA (Tel-Aviv), G-18-JS (Jerusalem) etc. The **area** is the basis for the Holyland Award Scheme.

Claim and Record Book

To help with the logging and for claiming purposes, a special record book is produced. The book includes:

- Detailed aims, explanations and requirements of the Holyland Award Scheme
- A list of regions and squares within the region
- A summary of achievement for claiming purposes

In addition to the book, the following items are available: country road maps, scale of 1:250.000. A list of settlements and its location square. Price for only the book — $10. Price for the book with the additional material — $18. The book and the additional material are obtainable from: M Webman 4X4JU, #14 Degel Reuven St, 49402 Petah Tiqwa, Israel.

The Scheme

Awards and Stickers: The award is given for working or hearing stations in the Holyland areas. There are two categories: (a) amateurs working in the Holyland; (b) amateurs around the globe.

In the (b) category, 100 areas from 13 regions are required for the basic award. Additional 12 areas, plus one extra region, are required per sticker.

Expedition and Mobile Trophy: A specially engraved trophy will be awarded for activating 100, 200, 300 and 400 different areas — available to all radio amateurs working DX while operating mobile or portable in the Holyland.

Operating Frequencies: To concentrate the effort, specific frequencies are recommended for the Holyland Scheme. Mobile and portable stations will use the following frequencies +/- QRM: 28.655, 21.320, 14.265, 7.060MHz.

Holyland Contest: A contest is held annually. The first contest will take place in April 1992, starting Saturday the 18th 1800 UTC, and ending Sunday the 19th 1800 UTC. More details are given in the amateur radio press and on request from the contest manager, IARC, PO Box 4099, 61 040 & Tel-Aviv, Israel. (SASE required).

Invitation

The Israel Amateur Radio Club invites you, among all other radio amateurs in the world, to participate in the "Holyland Award" program. We hope you will find interest in expanding your geographical knowledge of the Holyland and create friendship with radio amateurs operating here. The beautiful award will be the right completion for your participation and, we hope, will give you much pleasure.

We here are making all efforts to increase the activity of radio amateurs in the country, and encourage mobile and portable operation. If you have a plan to visit the Holyland in the near future and wish to operate your radio station here, mobile or fixed, you can take part in the "Holyland Expedition & Mobile" plan and win the trophy. The IARC, with great pleasure, will assist all radio amateurs who wish to operate in the Holyland.

We hope to see you among the radio amateurs taking part in the Holyland Award program.

(See Holyland DX Contest on page 33 of this issue for definition of regions and areas — Ed)

Overseas award hunters have shown interest in some awards which are not within the scope of the Federal Awards Manager. However, since I am always ready to please, and since *AR* enjoys world-wide popularity, here is the information I have been able to unearth.

Zone 29 Award

25 stations in Zone 29 after 1.1.52. $A5 to WIA (VK6 Division), PO Box 10, West Perth 6782. **ar**

CONTESTS

(INFORMATION PROVIDED BY RELEVANT CONTEST MANAGERS)

Results — Commonwealth Contest 1991

John Tutton VK3ZC

Band conditions across Australia during the 1991 Commonwealth Contest (BERU) were reasonably good, and probably had a lot to do with an increase in the number of VKs submitting logs — from 30 to 37 — so it looks as if we have negotiated a deep trough and are now on the way up again, hopefully before long to exceed our record of 66 set in 1984.

The contest is under a two-pronged assault. Firstly from the John Moyle contest which is in progress for a large part of the time, but which may bring more VKs and ZLs on to the bands, and secondly from the Japanese 59 Magazine contest which covers the whole 24 hours (and more). See "RSGB Comment". Could we ask that John Moyle entrants make out a second log for BERU contacts? VK3ZC QTHR would be pleased to forward it for you.

Kevin Smith VK6LW, taking advantage of the Westralian Effect", was fifth overall, and winner for VK, again topping 6000 but failing, by only 51 points, to match his record score in 1990. Dieter Kiesewetter VK2APK, sixth overall, made a late run to edge out VK2BW into seventh place. The thoughts of many VKs' "who's this 2BW chap" were answered when he turned out to be ex-G3PEK, a BERU man of long-standing.

The absence of a VE from the top two places was quite something, and 9H1EL, second back in 1980, is to be congratulated on his fine win. One wonders how many east-coast VKs worked, or even heard, ZK8VW.

We were again able to put on the air a HQ station, VK3WIA, and the contact and bonus points from it, GB5CC and P29CAS were much appreciated. The operating was shared by Geoff Hudson VK3VR and Greg Williams VK3VT.

Top Ten

1	9H1EL	6866	6	VK2APK	5235
2	ZD8VJ	6765	7	VK2BJ	5155
3	VE7CC	6689	8	G3FXB	5055
4	VE3EJ	6495	9	G4BUO	4915
5	VK6LW	6139	10	G3MXJ	4595

Australian Scores

5	VK6LW	6139	65	VK3AOR	1630
6	VK2APK	5235	66	VK3BXA	1540
7	VK2BJ	5155	67	VK6RU	1510
11	VK4XA	4530	70	VK7FN	1425
15	VK5GZ	3515	75	VK5ZN	1275
16	VK5BN	3445	79	VK7RY	1205
21	VK3ZC	2995	84	VK4TT	1170
26	VK8HA	2700	86	VK6RZ	1095
29	VK3MJ	2645	94	VK2AIC	940
32	VK2DID	2550	96	VK3IT	880
33	VK4XW	2430	97	VK7RO	865
36	VK6BB	2273	107	VK7GB	641
45	VK2ETM	2120	111	VK8CW	615
36	VK3DNC	2110	116	VK3XF	550
54	VK5AGX	1880	117	VK3J1/2	485
55	VK8KV	1786	119	VK5HO	400
57	VK6HQ	1750	122	K3XB	250
61	VK6AJ	1695	126	VK3KS	175
62	VK4OD	1685			

Other Pacific Area Scores

14	ZL1AIZ	3905	81	ZL2TX	1185
18	P29PL	3095	91	ZL1BSG	975
25	ZL1HV	2722	98	ZL2BCH	830

ZL equalled its recent high of five entries, but quite a few others were active. Most of the old stalwarts from a number of Commonwealth countries VE, VO, 9J2, 5Z4, A22, ZB2 and Z2 were around, and YU400/5B4 scored 1395 with a single-band entry.

VK5AGX and VK3XB were winners of the overseas single-band certificate for 14 and 7MHz respectively. Twenty-six of the 126 entrants submitted logs for only single-band operation — maybe that was why some areas were difficult to find on some of the bands.

RSGB Comments

The 1991 Commonwealth Contest was, as always, a close-run battle, but this year saw a very welcome change at the top with both first and second places going to "new" entrants. Jeff Morris 9H1EL made excellent use of his three monoband Yagis and LF verticals to take overall first place, collecting the leading band scores on 20m and 10m in the process. Andy Chadwick ZD8VJ, operating in only his second Commonwealth Contest (with a more modest three-element tribander and doublet at 25 feet, but an eminently collectable callsign) pushed hard throughout but, in the end, fell short by the narrowest of margins. Positions amongst the leading VE, VK and G stations show the now-familiar pattern, winners being Lee Sawyer VE7CC, Kevin Smith VK6LW and Al Slater G3FXB (back home to reclaim the Colonel Thomas Rose Bowl from G4BUO!). In the single-band category, the most remarkable result was achieved by Peter Hobbs G3LET, who was the only monoband entrant to win his band outright. The one and only entry in the receiving section was a fine effort from the now sadly departed "Brad" Bradbury BRS1066 ... the committee was saddened to hear of Brad's death, especially as he was unaware of his latest win.

For the second time the Commonwealth Contest was fought under extremely difficult conditions of interference due to clashing with another CW contest run by the Japanese *5-9* magazine which has "camped" on the Commonwealth date established more than 50 years. This made it all the harder for the Commonwealth DX with exotic callsigns, and the high scores in the table are a tribute to the remarkable endurance of those brave souls who battled on through the QRM. Seriously though, this clash of dates is proving to be a real problem. The RSGB has made a number of representations directly to the magazine, and also via IARU and JARL, for the event to be moved to a recognised IARU "slot", but so far with no good result. Both societies are continuing the lobby, and we can only suggest all participants write directly to the editor of the magazine and to the IARU Region 3 chairman to demonstrate the strength of feeling concerning this.

All amateurs throughout the Commonwealth are cordially invited (and heartily encouraged) to enter the next RSGB Commonwealth Contest, to be held on 14-15 March 1992. Here's hoping for a bumper entry next year!

The Holyland DX Contest — Israel 1992 Rules

The aim: To promote contacts between radio amateurs around the globe and Israeli hams.

To aid amateurs to achieve the different Israeli Awards and to introduce the new "Holyland Award".

1. Eligibility: All licensed amateurs and SWLs worldwide.

2. Object: To contact as many different Israeli amateur radio stations on as many bands, and from as many "areas", as possible in both modes, CW and SSB.

3. Contest Period: Starting Saturday 18 April 1992, 1800 UTC, ending Sunday 19 April 1992, 1800 UTC.

4. Categories: 1. Single operator — all bands.

2. Multi operator — single transmitter — all bands.

3. Shortwave listeners.

5. Modes: SSB and CW.

6. Bands: 1.8, 3.5, 7, 14, 21, 28MHz. According to the IARU Region-I recommendations: 3.50-3.56, 3.60-3.65, 3.70-3.80, 14.00-14.06, 14.125-14.300, 21.00-21.08, 21.20-21.40, 28.00-28.10, 28.50-28.80MHz.

7. Exchange: Worldwide stations send RS(T) + QSO number starting with 001. Israeli stations give RS(T) and area.

8. Valid Contact: The same station may be contacted in both CW and SSB on each band. It is thus possible to make up to 12 valid QSOs with the same station if worked in CW and SSB on each band. Neither cross-mode nor cross-band contacts are permitted.

9. QSO Points: 2 points for each QSO on 1.8-3.5-7MHz. 1 point for each QSO on 14-21-28MHz.

10. Multipliers: One multiplier for each area per band worked.

11. Scoring: Multiply total number of QSO points by number of multipliers.

12. Logsheets:

A. Separate logs for each band and mode.

B. Each entry shall report: time, callsign, RS(T), area received and points.

C. SWLs shall report on Israeli stations only: time, callsign, stations worked, RS(T), area sent, and points.

13. Scoresheet:

A. A summary sheet shall list number of multiplier and points scored from each band worked. Total multipliers and points plus the computation of total score.

B. Declaration of compliance with rules of contest and own radio amateur licence.

C. Entries must be postmarked not later than 31 May 1992 and sent to: Contest Manager, Israel Amateur Radio Club, Box 4099, Tel Aviv 61040.

14. Awards:

A. A trophy for the overall winner in each category.

B. A plaque for each continental winner in each category.

C. Certificates will be awarded to the top scorers in each country, provided a minimum of 50 valid QSO points have been reached.

15. Special Operation: Israeli mobile or portable stations may move and change their location during the contest into five different areas, restricted to an operating time of at least one full hour per area. The operation from each area gives that station the status of a different station with another call, thus giving additional contest points and multipliers. To identify its different location/area those stations will change their callsigns by adding a number after their prefix. For example, 4X4JU will use 4X41JU, 4X42JU, 4X45JU or 4X6JS will use CX61JS, 4X62JS etc.

Explaining the Multipliers

1. The square system
   The country is divided geographically, by the Survey Department of Israel, into a grid system resulting in squares of 10x10km.
   North-to-south co-ordinates are identified by numbers, while west-to-east co-ordinates are identified by letters. The square is defined through the combination of the relevant co-ordinates, ie E14.
2. The administrative system
   The country is divided into 23 administrative regions.

Here is a list of the regions and their respective abbreviations:

Akko	AK
Ashgelon	AS
Azza	AZ
Beer Sheva	BS
Bethlehem	BL

Hadera	HD
Haifa	HF
Hagolan	HG
Hasharon	HS
Hebron	HB
Jenin	JN
Jerusalem	JS
Kinneret	KT
Petah Tiqwa	PT
Ramallah	RA
Ramla	RM
Rechovot	RH
Shekhem	SM
Tel Aviv	TA
Tulkarm	TK
Yarden	YN
Yizreel	YZ
Zefat	ZF

3. The Areas

An area is made up from the 10x10km grid reference square and the region. For example: E14TA, H08HF.

The area is the basis for the Holyland Award and the Holyland DX Contest. For that purpose the area must contain land, and only that land or any waterway in that area is considered to be the area.

4. Maps

The Israel Survey Department has printed the following maps:

5.1) Country road map with a 1:250.000 scale, comprising two sheets.

5.2) Country road map with a 1:100.000 scale, comprising six sheets.

5.3) Region map with a 1:250.000 scale, comprising two sheets.

BEST 73s AND SHALOM
CONTEST COMMITTEE OF IARC
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VHF/UHF – AN EXPANDING WORLD

ERIC JAMIESON VK5LP – PO Box 169 MENINGIE 5264

All times are UTC

Six Metre Beacons

Freq	Callsign	Location	Grid Square
50.000	GB3BUX	England	IO93
50.005	ZS2SIX	South Africa	KF25
50.009	JA2IGY	Japan	PM84
50.012	OZ4VM	Denmark	JO46
50.015	SZ2DH	Greece	KM27
50.015	V51VHF	Namibia	JG87
50.015	PJ4B	Bonaire	FK52
50.016	4N3SIX	Slovenia	JN76
50.016	JA6YBR	Japan	PM51
50.018	V5AVHF	Namibia	JG87
50.019	P29BPL	Papua NG	QI30
50.020	GB3SIX	England	1073
50.020	CX1CCC	Uruguay	
50.021	OZ7IGY	Denmark	JO55
50.022	FR5SIX	Reunion Is	LG78
50.0245	ZP5AA	Paraguay	GG14
50.025	YV4AB	Venezuela	FK50
50.025	OH1SIX	Finland	KP11
50.025	6Y5RC	Jamaica	FK17
50.026	JA7ZMA	Japan	QM07
50.029	CT0WW	Portugal	IN61
50.0325	ZD8VHF	Ascension Island	II22
50.032	ZS5SIX	South Africa	KG50
50.033	LU8YYO	Argentina	FF50
50.035	ZB2VHF	Gibraltar	IM76
50.035	ZS3VHF	South Africa	JG87
50.035	V73AT	Marshall Is	RJ38
50.039	FY7THF	French Guyana	GJ35
50.040	VO1ZA	Newfoundland	GN37
50.040	SV1SIX	Athens	KM17
50.041	FO5DR	Tahiti	BH52
50.042	GB3MCB	England	IO70
50.043	ZL3MHF	Aylesbury	RE66
50.044	JR7YAG	Okinawa	PL36
50.044	OX3VHF	Greenland	GP60
50.045	YV4ZZ	Venezuela	FK60
50.046	VK8RAS	Alice Springs	PG66
50.047	JA7YYL	Japan	QM08
50.048	TG4BFK	Guatemala	
50.049	JG1ZGW	Japan	
50.050	GB3NHQ	England	IO91
50.050	ZS6DN	South Africa	KG44
50.050	VE7SIX	Canada	DN09
50.051	LA7SIX	Norway	JP99
50.0525	ZL3MHB	Greymouth	RE57
50.053	JA5FFJ	Japan	
50.053	VK3SIX	Hamilton	QF02
50.056	VK8VF	Darwin	PH57
50.057	VK7RSB	Hobart	QE37
50.057	TF3SIX	Iceland	HP94
50.060	GB3RMK	Scotland	IO77
50.060	PY2AA	Brazil	GG66
50.061	KH6HME	Hawaii	BK29
50.0625	GB3NGI	North Ireland	IO65
50.064	GB3LER	Shetland (GM)	IP90
50.064	WD7Z	Arizona	EL59
50.0655	GB3IOJ	Jersey	IN89
50.065	NB30/1	Rhode Island	FN41
50.066	VK6RPH	Perth	OF78
50.069	K6FV	Woodside	CM87
50.070	EA3VHF	Spain	JN01
50.073	KH6HI	Hawaii	BL01
50.073	ZS4SA	South Africa	KG33
50.075	VS6SIX	Hong Kong	OL72
50.0775	VK4BRG	Sarina	QG48
50.078	PT7BCN	Brazil	HI06
50.079	TI2NA	Costa Rica	EJ79
50.080	HC8SIX	Galapagos Is	EI59
50.080	SK6SIX	Sweden	JO57
50.082	VE1MUF	New Brunswick	FN66
50.082	HC6SIX	Galapagos Is	EI59
50.085	9H1SIX	Malta	JM75
50.085	3D2FJ	Fiji	
50.086	VE2STL	Quebec	FN46
50.0865	LU1MA	Argentina	FF87
50.090	KJ6BZ	Johnston Island	AK56
50.091	9L1US	Sierra Leone	IJ38
50.092	W5GTP	Louisiana USA	EM40
50.092	HC2FG/B	Ecuador	EI97
50.100	5H1HK	Tanzania	
50.110	A61XL	United Arab Emir	LL74
50.120	4S7EA	Sri Lanka	MJ96
50.314	FX4SIX	France	JN06
50.321	ZS5SIX	South Africa	KG50
50.490	JG1ZGW	Tokyo	PM95
50.499	5B4CY	Cyprus	KM64
50.904	ZS1STB	South Africa	KF05
51.020	ZL1UHF	Nihotupa	RF73
51.030	ZL2MHB	Napier	RF80
52.100	ZK2SIX*	Niue	AH50
52.510	ZL2MHF	Mount Climie	RE78
52.325	VK2RTV	Newcastle	QF57
52.330	VK3RGL	Mount Anakie	QF22
52.345	VK4ABP	Longreach	QG26
52.370	VK7RST	Hobart	QE37
52.420	VK2RSY	Sydney	QF56
52.425	VK2RGB	Gunnedah	QF59
52.440	VK4RTL	Townsville	QH30
52.445	VK4RMB	MacKay	QG48
52.450	VK5VF	Mount Lofty	PF95
52.470	VK7RNT	Launceston	QE38

*Has anyone heard this beacon?

Beacon Notes

According to *The West Australian VHF Group Bulletin,* VK6RTT on 52.320 is off the air until further notice. The same source says the Perth beacons are located at the QTH of Bob VK6KRC and operate on 50.066, 144.460, 432.160 and 1296.480. There will be more information later on a beacon for 10.4GHz.

John VK3ZJC says Queensland DoTC has licensed VK4RMB as beacons in MacKay on 52, 144 and 432, all operating on .445 in competition with similar frequencies for beacons in Cairns and Townsville. Could be interesting in the event of a general tropo opening in northern Queensland!

All four VK5 beacons are now operational from Mount Lofty using the callsign VK5VF on 52.450, 144.450, 432.450 and 1296.450MHz, and all have been heard in Albany, Western Australia, a distance of 1880km, by Wally VK6WG, who finds the 1296 beacon to be particularly useful, alerting him to openings across the Great Australian Bight to VK5 and points beyond, and also warning of the potential for contacts on 2304MHz and above. The four beacons are radiating very well and cover the 120km path to VK5LP at Meningie to provide S9+30dB signals constantly on the first three bands, and a steady S9 on 1296, without the use of any masthead preamps! Thanks to VK5AVQ and VK5KK for their work on the beacons.

Can anyone inform me whether any or all of the Cairns beacons signing VK4RIK are operational please?

News from Europe

First from Ted Collins G4UPS: In Lithuania, a club station LY2WR has been issued with a special experimental permit which expires in April 1992. However, it is understood that by then six metres will probably be a general allocation.

Ted says start-up time for OK (Czechoslovakia) Class A stations was 14 December 1991 with a maximum power limit of 25 watts and OK2PZW, OK1DIG and OK3LQ were first off the rank from 0001 UTC!

It appears a DXpedition to the South Sandwich Islands is being planned for two weeks from 14 March. The callsign will be VP8SSI and the QSL route for CW and RTTY is KA6V, and for SSB via AA6BB. The islands are included in the British Falkland Islands.

From the Republic of Russia, a 6m operator has appeared — Andy RA3TES. He lives in Arzamas, located to the east of Moscow and on the Trans-Siberian Railway in Grid Square LO15.

For anyone fortunate enough to work

HS5SEA the QSL route is RAST, GPO Box 2008, Bangkok 10501, Thailand. QSL route for 9J2HN in Zambia is JH8BKL, Katsuhide Kawase, 9-1655, Shinkai, Teshio, Hokkaido, 098-33, Japan. No direct cards to Zambia, please.

Ted G4UPS sends a daily report of what was worked or heard in G land from 1/12 to 31/12, and this comprises three typewritten pages! A summary of this indicates the following callsigns: ZD8VHF/B, 4N2SIX/B, HC5K, CN8ST to VE, KP2A to EA8/DJ30S, VE1BVL, K1TOL, KM1H, PT7NK, PA0LSB, GM4ISM, OK2PZW, K1IKN, VE1YX, YU3ZV, YU3GO, FC1JG, OE9EMI, YT3ET, DJ9WH, F8OP, OE2UKL, I2FHW, YU3IT, OK3LQ, VE3, WA1OUB, 4X1IF, P43FM, HC2FG, YV5ZZ, KP2A, PZ1AP, PZ1EL, N4EJW, W1, 2, 3, 4, 8, 9L1SL/B, PJ9EE, FY7/B, KP4EIT, VE1BVL, VO1QF, VO1ZA/B, KJ4E, W5HUQ/4, EA8/DJ3OS, VK3OT (25/12), VS6BG, OZ4VV, W1GCI, K1IKN and DL9RDG.

Geoff Brown GJ4ICD from Jersey, in his January report, also quotes an amazing mixture of Es and F2 contacts. 1/1: Es to OH, SM3, SM0, LY2WR, ES5MC; 2/1: F2 to TI2, YV, P43 all S9; 3/1: 9L1SL/B, FY7/B. Es to DL, CN8, OE, PA, OZ, ON, LA, I, YU, OE — open all day.

4/1 was a special day. Worked at S9 were KP2A, HC1BI, NP4NP, KP4A, P43FM, KP4EIT, W1s, W4s, KM1E/C6A. Then Es to DL, PA, ON, OZ, OK1DIG (this one giving Geoff 118 countries), then a big opening to W4, 5, 6, 7 and 0. (We in VK seem to be living in the wrong hemisphere ... VK5LP).

5/1: Is to IT9, 9H, I7, I8, 9H1SIX; 6/1: F2 and Es to WO, 1, 2, 3, 4, 5, 7, 8 and 9! 7/1: P43FM, YV4AB, KP2A, W1, 2, 3, 4, 5, 9, HI8A, KM1E, VE1, VE3 and 9H1 again; 8/1: W1, VE, ZS6WB; 9/1: VE, W1, W2; 10/1: VE, W1, W4; 11/1: big USA opening to W1, 2, 3, 4, 5, 8, 9, 0; 12/1: YU, CN8ST, CN8BA, ZB2/B.

What we in VK need to keep in mind is that the above two reports for December/January in Europe are equivalent to June/July here, so the European operators have not only been treated to the usual mid-winter Es but have had F2 openings as well, which would not be very common on such a scale as reported.

The Australian Scene

On six metres, from 7/1 Es opening across Australia have dominated the band, with a number of days being similar to 14/1 when VK5 worked or heard VK1, 2, 3, 4, 5, 6, 7 and 8. On 7/1 there were several solar flares between 0850 and 0905 At 0800 VK3OT and VK5BC were calling Europe. On 12/1 from 0900 to 1030 Don VK6HK worked 21 stations on CW in OZ, PA, G, SM, LA and OH. On the same occasion Wally VK6KZ worked two OH stations, others sharing the opening were Graham VK6RO and Wayne VK6WD, but results are not known. Don said all the stations worked were located very close to a sharply defined "range arc" from Perth, with little variation in Great Circle path distance. Bearing variation to each station appears to have been about 10 degrees, similar to previous openings. The grand "pooled" total of countries where propagation has occurred to or from Perth at last count on 5/11/91 was 56 countries.

A correction to last month's report when I said VK3OT had worked Europe on 26/12. In fact, it was 25/12, and even on Christmas Day the Hamilton rig is not permitted to cool down too far! Steve worked IK1EGC, IK2GSO, SM6CMU and IS0LYN. On 6/1 he worked OK3CFK, OH3MM and OG1ZAA; 7/1 heard OH2TI, SM7AED and LA9ZV. 8/1 and 11/1 video heard on 48.2402, 48.2396, 48.2500, 48.2604, 49.7600, 49.7604 between 0745 and 0945, with liaison on 28.885 and CW calling on 50.110 and 50.107 from VK3OT and VK3LK, also VK5BC. Ray VK3LK on 4/12/91 worked KH6JEB/KH7; 6/1/92 OG1ZAA (special prefix for OH); 7/1 OH2TI and SM7AED.

Daily Es openings occurred between VK5 and VK4 from 7/1 through 30/1 when Es contacts became scarce; there was also a complete absence of F2 signals from then until at least 4/2, due to solar blackouts. JAs heard at 0300 on 21/1 and at 1100 on 29/1. ZL2KT worked VK5RO and VK4ASL on 23/1 at 1010. VK4s working VK1, 2 and 3. 27/1 at 0900 video on 48.2 was weak, but strengthened at 0955 — VK2QF, VK3OT and VK5BC calling Europe on CW.

On 28/1 Steve VK6PA in Karratha worked 42 stations between 1108 and 1217 UTC, which is quite late. Countries/stations worked were F6FEF and DJ1OJ on CW at 559. On SSB with signals up to 5x9 were DK5UG, PA2HJS, LX1JX, ON1ANI, G7EXO, PA0HIP, SM7AED and OZ1FDH. At 1330 all the JA beacons were being heard. The following day on 29/1 the band opened again to VK6PA from Europe between 1114 and 1221, and those worked included ON4GG, G7EXO, OZ1BVW, GJ4ICD, GW3MFY, PA0HIP, F1FHI, OK1DIG, ES5PC (both new countries), DL8HCZ, SM6CKU, OH2LQO and JH4UCM. (My thanks to Steve VK5ZBK for selecting this information sent via packet.

Peter VK8ZLX on 28/1 worked ON4GG at 1135. On 29/1 from 1101 he called in vain for half an hour to contact CU1EZ, but he seemed occupied working Europeans. Peter said the openings to VK6PA were now only infrequently being heard in Alice Springs.

On Higher Bands

Not everything has been happening on six metres, and a number of operators have been having a good time on 144, 432, 1296 and 2304MHz. It all started with a rare 144MHz tropo opening to Perth on 19/1 at 2250 between VK5NY and VK6HK, VK6AKT, VK6KZ and VK6KRC, with signals 5x2/3. It appears VK5AKK was unable to work the VK6s, but VK5ACY may have been more fortunate. VK5LP was away in Adelaide!

On 29/1 a large high pressure system settled in the Great Australian Bight, with a pressure gradient of 1018 millibars; this, together with the reception of the Albany beacon VK6RTW on 144.465MHz, plus reception of repeaters from various centres in VK3, 5 and 6, was sufficient to alert the ever-watchful operators that it was time to turn on the transmitters. A large coastal duct/inversion had established itself, and at first contacts were confined to those stations near the coast rather than those inland, but they were to have their share later.

From the VK5LP log Wally VK6WG was first worked on 144 at 2324 at 5x7, on 432 at 2325 5x7, 1296 at 2327 was a doubtful contact — both parties heard one another at 4x1, but not sufficiently to claim a contact. At 2351 on 144 Bob VK6BE was 5x2 and Bill VK6AS also 5x2, so it was obvious the best had passed. On 30/1 at 0923 Brian VK6YAU was 5x7 on 144 and 5x8 on 432. At 0930 I copied a brief 5x4 burst from VK6YAU on 1296, but Brian was having trouble copying me. At 0943 Bob VK6BE was 5x4 on 144 and 5x7 on 432. At 1008 VK6YAU had risen to 5x9 on 144. At 1040 the beam was swung from the west to south-east to work Trevor VK5NC in Mount Gambier on 144 at 5x5 and 432 5x6, but nothing on 1296. At 1101 Frank VK6DM was too weak to work, but at 1105 Wally VK6WG returned to the fray and was 5x6 on 144 and 5x9 on 432, but we still could not make it on 1296, both running 10 watts.

The next morning (30/1 UTC) at 2320 on 144, VK3BFY in Shepparton was heard but not worked, at 2339 VK3DUT was up to 5x8. That night at 0950 another try on 1296 to VK6WG failed, but Wally was 5x8 on 432. On the same band at 1006 VK6YAU was 5x9 and VK6DM 5x5. At 1135 VK6WG was 5x7 on 432. The next morning the VK6 opening had virtually disappeared.

Others involved on 29/1 were John VK5KAF on Kangaroo Island, who worked VK7XR 5x2 at 1004 and appears to have been the only one to do so! VK7XR was too weak here. Roger VK5NY from his mountain-top mansion was unable to share in the early part of the opening, as his elevation was too high, but he eventually made amends and had many contacts to the VK6s on 144 and 432 and VK3BFY, VK3DUT, VK3AUG, VK3AFW, VK3AUI and others on 144. The VK6s were also worked by VK5KAF, VK5ACY, VK5AKK, VK5ZBK, VK5EME, VK5AKM, VK5KK, and there were probably others I did not hear. At one stage during all the happenings, with his 130 watts on 1296, Keith VK5AKM landed a 5x9 signal at VK6WG, but had difficulty copying Wally's 10 watts. Goes to show you can actually brute-force a signal through! All the distances between VK5 and the VK6s in Albany would be in excess of 1800km.

However, on 31/1 the night owls were to receive a treat. Between 1200 and 1320 on 2304.17MHz a contact took place between

VK5AKM and VK6WG, with signals 569 and 529, actually good enough for SSB copy. At the same time 1296 was around S5. Listening in was David VK5KK. David later reported an interesting phenomenon in that he and VK5AKM, 40km distant, were able to work one another at 5x1 using side scatter on 2304MHz, as both had their antennas pointed west.

Auroral Opening

After three days of dead silence on six metres due to solar flares and others recovering from the many hours of activity on 144, 432 and 1296, an auroral opening occurred on 3/2 between 0730 and about 0940. I was alerted by phone calls from VK5NC and VK3OT, but managed to work only VK5NC and VK3BRZ, with the antenna at 155 degrees, the garbled signals peaking to S5. The aurora suited those further to the south-east than my location, with Trevor VK5NC, between 0730 and 0940, working VK7XR, VK7ZMF, VK7ZJG, and VK3s YJR, XRS, BRZ, BDL, DUT, AFW, ELV, UM, AMZ, AKK, ALZ, VK1VP and VK5LP. These contacts were on 144MHz, 432 and 1296 were tried, with indifferent results. VK3OT worked several stations on six metres.

After the aurora, Trevor VK5NC reported excellent conditions to VK3 and VK7, and worked on 144 VK3XEX, VK3UM, VK3AUI and VK7XR, the last also being worked on 432MHz. All signals were 5x9. Trevor also reported on an unusual contact with John VK3YTV over a distance of 400km with 5x9 signals on 432MHz. Apparently at an earlier stage, John had had a tree fall on the guy wires to his tower, and this caused considerable damage. However, he had been able to re-erect his 1296 dish fitted with a 432 dipole, and it was with this set-up he had worked Trevor.

Closure

No more room exists for me to report some small amounts of information I am holding — maybe next month. This may be the last time for a while the full 6m beacon list will be published so I suggest you look after it! Closing with two thoughts for the month: *There may be something in the idea of reincarnation. Some women of 35 can personally remember things that happened 45 years ago* and *Most people would be glad to tend to their own business if the government would give it back.*

73 FROM THE VOICE BY THE LAKE

HOW'S DX

STEPHEN PALL VK2PS – PO BOX 93, DURAL 2158

Space does not permit me to go into lengthy polemics about amateur radio politics.

It is sufficient to say that DXpeditioning, the kind where one goes to a country with no previous amateur activity, is fraught with danger, physically, politically — as in diplomacy — and politically again — as in amateur radio politics.

Without pointing the bone at anyone, I can think of at least half a dozen instances in the past two years where amateur radio politics raised its ugly head again and again. Wealthy nations (read influential amateur groups) apply various methods to induce previously hostile government administrations to lean towards them and allow the practice of amateur radio, if not for the whole population, at least for the individuals themselves, so they can claim they were the "first" who put XYZ DX country on the DXCC map.

The attitudes and methods aided by other interested parties create a "cargo cult" mentality among the less developed countries and will not — in the end — bring friendship and international goodwill to those who call themselves radio amateurs, especially not to those who are the new inexperienced practitioners of the art in these underdeveloped countries.

Do we let selfishness, vanity, envy, greed and many others of the so-called "deadly sins" overcome the joy of friendship, co-operation and helpfulness of the amateur radio spirit?! You shall be the judge!

Albania — ZA

The past operations of the various Hungarian groups in Albania are continually on the boil. Snippets of information are coming through the mail from the various sources, mostly independent of each other. I have to stress that none of this news has been confirmed by others; however, certain core information is appearing in all the accounts. Depending from where it originates, some of it, or all of it, can be true or it could be just hearsay.

However, here are the main points, and it is for you, the reader, to decide what you want to believe. The callsign of the club station established by the ZA1HA group on 19 October last year is: ZA1FD, and is located in the town of Elbasan, which is situated about 54km from Tirana in a south-easterly direction. The station is in one room of a sports complex. The reader should remember that the licence of ZA1HA was issued by the Albanian Ministry of Culture, Youth and Sport. The equipment donated by the ZA1HA group consists of one FT757GX, one FL2100Z, a three-element tribander beam rotator and recently added various pieces of "fox hunting" equipment.

Incidentally, two members of the original HA Albanian team, HA4YD and HA6NF, were back in Albania from 30 January until 7 February, and were active again as ZA1HA (QSL to Radio Club Salgotarjan-HA6KNB, PO Box 115, H-3101 Salgotarjan, Hungary). The frequency was 14195 at around 0530 UTC, calling exclusively for VK, ZL and Oceania. This latest visit is still in the spirit of the contract between the Hungarian and Albanian radio amateur societies which provides for further training in radio directional finding, an activity commonly called "fox hunt" in Australia. It is also known that a meeting was held on 4 February in Tirana, which was attended by 17 leaders of various amateur groups, to discuss the future of amateur radio in Albania.

There are three operators at the club station ZA1FD, and so far they have achieved about 350 QSOs, mostly with European countries in the CW mode. They are still beginners, therefore tolerance and helpful goodwill should be extended to them by the DX fraternity. On 4 February, ZA1FD appeared on 14195kHz at around 0630 UTC. The operator was Fatos, a local Albanian who expertly handled the SSB QSOs under the guidance of Dodi HA6NF. Unfortunately, propagation was not the very best, so many VKs, ZLs did not make the longpath to Elbasan. If you want to QSL ZA1FD send your card direct (there is no QSL bureau in ZA). The address given was c/-PTT Elbasan, Albania. The two Hungarians, HA4YD and HA6NF, proceeded to Tirana on 5 February to assemble and put on air the second club station, for which the equipment was left behind last year by the other Hungarian group, which operated under the callsign ZA1Q. Incidentally, you might remember the station ZA0RS? This was the Hungarian Contest team with 11 Hungarian operators in Albania. This team took part on 26-27 October in the CQ WW DX Phone Contest. The team made a total of 12673 QSOs and finished up with 19,767,769 points. Interesting thought: if the Hungarian ZA activities will not be recognised by the DXCC, will this make the contest QSOs of the other DX stations invalid?

A separate letter from the operators of ZA1QA throws further light on the somewhat confused amateur radio situation in Albania. It appears there are two Albanian radio amateur societies with very similar names. The older association, AARA, has been active since 1960 under the collective name of a sporting association and has approximately 2300 members. (The reader is again reminded that under the former socialist regimes in Eastern Europe amateur radio was considered to be a sport and, as such, was under the umbrella of sport ministries and various semi-defence organisations).

The members of this group are very knowledgeable in Morse code and have substantial knowledge of the international Q code. The association possesses two club stations, one of them is ZA1FD. The other, newer, group is

called The Albania Amateur Radio Association, and was established with the help of the ZA1A team and had about 25 members as at September last year. Most of its members are the employees of the Albanian PTT. The guest licence No 1 of ZA1A was given to Martti Lane OH2BH by this association as shown on a facsimile copy on page 4, November 1991 issue of *CQ* magazine. This second association (the new one) has also a club station with one of the transmitters operating. This was donated by a Japanese amateur equipment manufacturer.

Incidentally, according to various DX news bulletins, the following Albanian stations were heard operating recently: ZA1TAE (CW 10MHz Jan), ZA1TAJ (CW 10MHZ Jan), ZA1TAF (CW 14MHz Jan), ZA1BM (CW 14MHz Jan), ZA1TAH (28899kHz Jan), ZA1TAD (CW 14MHz), ZA1TAG (CW 14MHz) and ZA1ZOU operated by PA0LOU in December on 21MHz.

The full name of the "Quick Aid" foundation, sponsor of the ZA1QA call, is the St Lazarus Quick Aid Foundation, a humanitarian organisation which works in Eastern Hungary, the former USSR, Romania and Albania, to assist the needy in these countries with medicine, food and clothing. They also have an emergency team of doctors to be sent to any location world-wide. The organisation is using amateur radio to assist with communications, and relies totally on generous donations. If you feel you can assist, send your donation to: National Savings Bank, Budapest, Hungary, a/c no BO65678, MNB 449-98008, or to the Quick Aid QSL Service: PO Box 5, KOMORO, H-4622, Hungary. The ZA1QA activity, according to the information on their QSL card, generated more than 70,000 QSOs, and they express their thanks to Mr Agin Zika, Assistant Minister of Culture Youth and Sports, Tirana, to the Albanian Government, to the embassies of the two nations in each other's capital, and to the Albanian Health Ministry for providing the site of the Central Hospital for their QTH.

Are you confused as I am when you read this news? I was just finishing this article when I heard the unconfirmed and welcome news that the DXCC has finally recognised the Hungarian amateur activities in Albania as a valid operation. Good news, indeed, but one will wonder for a long time what took them so long to arrive at this happy decision? I have a feeling we will never find out!

A Travelogue — HA5BUS

The Hungarian radio amateur bus made more than 11,500 contacts as EP/HA5BUS. They were active from India as VU/HA5BUS and hope to be in Bangladesh by the middle of February. It is not yet known whether they will be active as S2/HA5BUS. They expect to travel through 35 countries before they return home.

Postal Difficulties — CIS

CIS is the present temporary English abbreviation for the independent states which were formerly in the Soviet Union. Ed Kritsky NT2X published a lengthy article in various DX outlets about the state of radio amateur mail in these states, which he describes in one word: bad! Due to deteriorating living and economic conditions, amateur mail is pilfered and destroyed by "expert" postal and custom employees. Ed gives the following advice: a) avoid flashy envelopes and stamps. Use franking labels and plain envelopes; b) do not use any callsigns on outside of envelopes. Do not use the words "radio" or "club" or other sticker displaying amateur radio; c) seal envelopes with synthetic glue; do not rely on the glue on the envelope; d) use transparent tape to seal seams; e) use Russian manufactured envelopes; f) avoid sending currency; use IRCs instead. Do not fold envelopes inside other envelopes; g) use registered mail if you can afford it. All good and sound advice. On our part we want to mention that the economic climate is not the best in any of the former "eastern bloc" countries and one should not be surprised if mail deliveries will deteriorate also in those countries.

The radio amateur world has to learn and appreciate the fact that the definitions of democracy, personal freedom and the security of the mail differ greatly from country to country.

Clipperton Island — FO0

According to the latest news the group organising the DXpedition has received landing permission and the licence permits six stations with the call FO0CI. A $10,000 deposit was paid and a contract signed for the transportation with the 85ft twin screw "M/V Cherokee Geisha". Seven operators are already fully committed and have paid their contribution. The party should board the boat at Cabo San Lucas around 2 March. They expect to spend a total four days on the sea, including the selection of landing spot and unloading of equipment. They intend to start operating on 7 March on a 24-hour basis. The total cost of the DXpedition is more than $60,000. However, there is still a doubt whether the expedition leaves for Clipperton or not. On 4 February there was a general appeal over the air for at least one more participant, as two of the previously committed operators have fallen by the wayside due to sudden family problems.

South Sandwich Island — VP8

The final update information just arrived on my desk. The activity will be from 21 March to 5 April. The eight-man operating team will leave the Falkland Islands on 14 March. The trip to South Sandwich will take seven days. All the equipment is safely on Falklands. The transport ship is already operating in the Antarctic region. The press release ends with the plea: CW and RTTY QSLs go to KA6V and SSB QSLs go to AA6BB. Please include generous $$$ contributions with all QSLs.

Hervey Bay Amateur Radio Club Community Event of the Year Award

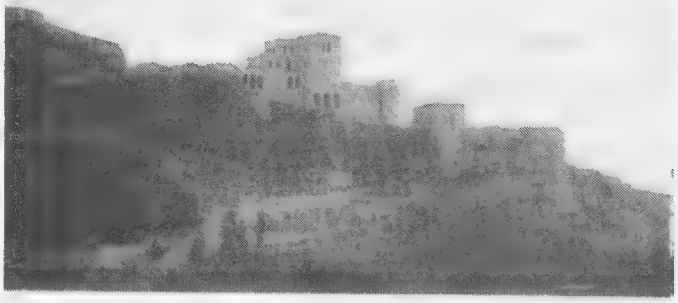
The Hervey Bay Amateur Radio Club VK4CHB has been mentioned on the pages of this column several times (July, Aug, Nov '91 and Jan '92 *AR*). Besides operating from Fraser Island as portable, satisfying those who were chasing the IOTA Island OC-142, their most remarkable activity was activating the special event station VI4HBW in August last year. This happened during the "Festival of Whales", a community activity lasting several months. The club made 6692 contacts with more than 100 DXCC countries in a period of 30 days, working 24 hours on all bands. It was a very satisfying task, which made the members of the club and their president Gray Taylor VK4OH very proud. The community at Hervey Bay and the Hervey Bay City Council especially recognised their efforts by awarding them "The Australia Day Community Event of the Year Award" for "outstanding contribution to the community in the year".

To the knowledge of the club and other amateurs, this is the first time an amateur radio club activity has been recognised officially and an award made by any government or semi-government body. Well done, boys and girls of Hervey Bay; one would think you will never have any problems in the future in erecting a tower for your Yagis! (See citation in box on page 39).

Future DXpeditions

* The activity from Macquarie Island VK0WD did not eventuate. After many days of being "icebound", the boat "Icebird" made a dash to Macquarie, off-loaded stores and exchanged personnel in record time and departed to other Antarctic bases.
* According to the *QRZ DX Bulletin*, Lee WW5B and other operators are making plans to operate from Albania from 20-28 July. Lee notes that "we have been assured by the Albanian Sports Federation that our permit will be forthcoming and have "inside" help from an Albanian citizen who is pushing for us on that end".
* The ZL8 Kermadec DXpedition to be undertaken by ZL1AMO has been cancelled due to lack of adequate funds.
* Jack T30JH will be actively, mostly on 18 and 24MHz, for about six weeks starting March 1992.
* Keep a sharp ear for another planned Russian DX activity from Afghanistan under the callsign YA5MM. The main organisers of the expedition are UT4UX

Main square of Tirana.



Castle of Kruja.

and UJ8MM. The expedition will take place, if funds permit, during the 1992 ARRL CW Contest, 15-16 February, and two or three weeks intense activity on the bands with a projected 25,000 QSOs. The DXCC quickly accredited the proposed operations conditional upon documentation (visa, rubber stamps) proving that the activity in fact takes place from inside Afghanistan. The budget of the expedition is $9000.

Taking into consideration the present value of the rouble, unless there are substantial donations from outside sources in hard currency, there is a considerable doubt about the materialisation of this expedition.

Interesting QSOs and QSL Information

Note: callsign, name, frequency, mode, UTC, month.

* VR6BX-Brian-21019-CW-0800-Dec. QSL to: Brian, Box 21, Pitcairn Island.
* 9N1HMB-21008-CW-0745-Dec. QSL to: JR7LVK Norikazu Kudoh, 4 Takajyomachi, Hirosaki 036, Japan.
* 5R8GW-14027-CW-0820-Jan. QSL to: F6FNU Antoine Baldeck, Box 14, F91291 Arpajon, Cedex, France.
* 7P8SR-Ray-14030-CW-2015-Jan. QSL to: Ray, PO Box 333, Maseru, 100 Lesotho.
* XT2BW-14027-CW-0815-Jan. QSL to: WB2YQH R E Nadolny, 135 Whetherstone Dr, West Seneca, NY 14224, USA.
* J88BW-14183-SSB-1020-Nov. QSL to: Bill, PO Box 206 Kingston, St Vincent.
* JW1UW-Bjorn-14226-SSB.. QSL via LA1UW via Bureau, or to Bjorn Gjerde, Askegaardsvn 1, N2859 Norde Toten, Norway.
* XU8KG-14030-CW-0305-Jan. QSL to: Yasme Foundation, Box 2025, Castro Valley, CA 94546, USA.
* ZD8OK-14023-CW-2034-Jan. QSL to: GW0FJT J Hanson, Rhoslwyd, Talley, Llandeilo, Dyfield, UK.
* N9MDW/5N6-14222-SSB-0607-Jan. QSL to: Clyde N Zimbelman, PO Box 601, Jos, Nigeria.
* 3D2UU Toruma Isl-14145-SSSB-0951-Feb. QSL to: DF2UU, Hans Joachim Peter, Hartbergstr 8, D-7570, Rastatt, Germany. V6EYL-Yarl-14262-SSB-0807-Jan. QSL to: PO Box 687, Yap via Guam, Zip FM 6947 Fed States of Micronesia.
* HF0POL-Zbig-21002-CW-2353-Jan. QSL to: SP9DWT via Bureau.

New face of Tirana.

RTTY News

Do you remember my note in January and February *AR* about the usefulness of this section of the DX column? So far I've received only two replies. Barbara, XYL of Brian V85EB, said they both find the notes useful; Jim VK8KV, being a CW man, does not think so. The result? We will continue for the time being until readers' opinion will change to a positive direction.

Here are the pickings from the list submitted by Syd VK2SG.

* 0734-14070-A92FG. QSL to: Box 11134, Manama, Bahrain.
* 1425-28086-9K2TC. QSL to: Box 25281, Sufat, Kuwait.
* 1728-28086-7Z2AB. QSL to: AA0BC. 0720-14085-SV0DV/9. QSL to: WB4TDB
* 2107-14085-PJ9BT. QSL to: W1AX.
* 1143-14091-XX9AX. QSL to: N6LVY.
* 1700-28089-C9RTC. QSL to: IK4QUIZ.
* 1058-21089-7Q7BW. QSL to: N5MHZ.
* 0355-14084-KN2P/KP1. QSL to: N0TG.
* 1941-14084-9K2ZZ. QSL to: W8CNL.

From Here and There and Everywhere

* Australia Post had a problem with Christmas and post-Christmas mail. A letter posted on 9 January in Darwin reached me on 4 February. Is this a record?
* VU2LX advises that his DX bureau is no longer functioning, therefore please QSL direct.
* The net operating on 14226.5 at 1100 UTC has "divorced" itself from the "Family Hour" name, and is now called "The Southern Cross DX Net", still concentrating on VK, ZL, Pacific, North and South America, and on the South East Asia area.
* A number of Russian cities have changed their names back to pre-1918. Leningrad became St Petersburg, and Sverdlovsk is now called Ekaterinaburg.
* Bernhard DL2GAC is on a five-month IOTA trip among the Pacific Islands. He will be active as VU2BMS (Jan-Feb), 8Q7CQ (16 Feb), 9M2QR (19 Feb), then he will travel to 9V1, DU, C21, H44 & P29.

Citation by Hervey Bay City Council

Australia Day — 26 January 1992
Community Event of the Year Award

The Australia Day Council this year announced expansion of the Australia Day Citizen Awards with the inclusion of the "Community Event of the Year" Award. Like its companion awards, it recognises outstanding contributions to the community in the year. The object of the award is to have a community reflect on its achievements and feel good about them.

The inaugural recipient of the "Community Event of the Year Award" recognising the impressive special event is the **Hervey Bay Amateur Radio Club Incorporated.** The club operators ran the Special Event Radio Station VI4HBW to promote Hervey Bay as a tourist destination, with two-way contacts to 6692 other operators worldwide.

At a meeting in February 1991, a group of ham radio enthusiasts decided to stage a special event to coincide with the Annual Whale Festival in Hervey Bay, the theme the club members used being "Amateur Radio Talks to the World about Hervey Bay". During the following six months, all amateur radio magazines throughout the world, including Australia, were notified of the coming event and of the "Humpback Whale Award" (designed by the Hervey Bay Amateur Radio Club). This award was intended to be available to any amateur in the world confirming two-way contact with the Special Event Radio Station VI4HBW.

On 1 August 1991, Hervey Bay amateur radio operators commenced transmission, operating 24 hours a day. The first 10 days of transmission were from the Condor Lakes Shopping Centre. This was incorporated with a static display to the public, showing operating procedures and radio equipment. Eleven working stations were provided by the members for this special event, and for the remainder of August the club members continued transmissions 24 hours a day from their home stations.

During this period 100 countries were contacted and each amateur operator was eligible to apply for the "Humpback Whale Award". This award proved to be highly sought after by amateur radio operators and has created worldwide interest in Hervey Bay.

The value to the community of Hervey Bay is not to be expressed in dollars but as a positive step towards the strengthening of the fabric of society in the city of Hervey Bay. The special event captured the imagination and attention, not only of the citizens of Hervey Bay, but also of a worldwide international audience, comprising many countries and many races. The enormous amount of work put in by members of the club is a tribute to their organisational skills and showed the ability to turn an amateur radio club into a very valuable part of the infrastructure of the city of Hervey Bay.

I know that the community recognises the Special Event Radio Station VI4HBW carried out by the **Hervey Bay Amateur Radio Club** is one to be proud of, and join in the congratulations on being the recipient of the "Community Event of the Year" Award for 1991.

Alderman F H Kleinschmidt
Mayor
ar

Harry Angel VK4HA Remembers

Harry would like to thank all those who took the time to write or call him on the occasion of his recent 100th birthday. The day was a great social success, with all three commercial TV networks giving good coverage on their six-o'clock news broadcasts. One channel even used the front cover of *AR* as a headline. Ben Humphreys, Member for Griffith, attended, as did representatives of the City Council and several members of the Divisional Council, and the day was very well organised by members of the local RSL.

Harry, his daughter Lillian and all his family would like to specially thank the following amateurs who sent cards:

VI88ACT.

VK2s: BAG, VI, FMT, CMV, AZS, AWA, WOZ, UW, OX, TB, FLG, RE, ARS, CHO, AJO, HH, NW, AVU, AXZ, FJW, XO, AOB, ETF, EK, LS, AJE, AA, OQ, XM, AHJ, AYF, JY, OI, KMS, ZW, NZW, DZF, ALS, FLG, LT, PS, ETW, ADU, GFO, WR, KQV and DR.

VK3s: CAP, NX, PL, HS, MX, AJL, UJ, DVT, EQO and ALP.

VK4s: PJ, AGZ, BET, FUQ, WC, CNP, RU, WY, FJ, BHS, WB, AG, MV, YD, ZB, WK, EQ, BQ, US, OS, ABX, BGC, DLH, ARB, BKM, BIF, HO, EG, ZAL, NB, COP, NRG, CC, DW, DX, OL, BRZ, CJ, BAY, KO, UB, AQA, ZRU, UR, MU, ZB, CAF, WY, KLY, BIL, NBC, ATS, YRW, BLE, ACL, KLV and the WIAQ through the Secretary, Bob VK4ER.

VK5s: CH, ACW, HC and ADQ.

VK6HM, VK6VB and his XYL, VK7CK, VK7PP, VK8NUE and VK8HA.

Special thanks to GW3NNF, DL8NU, JH8JOM, JA8PGU, JA8EQL, JARL, the Philippine Amateur Society, Manila DX Club, ORARI, the Chinese Radio Sports Association, Bill Roper on behalf of the WIA and the South-East Queensland ATV Group. There were also many others received which Lillian believed were from amateurs, but the senders didn't include a callsign. To all of you who were missed, sincere thanks.

Harry would also like to thank all those who contacted him by radio on his birthday:

Coral Coast Net —

VK2s: AVU, AXZ, FJW, XO, AIB, ETF, EK, LS, BAG, CVT, UI, FMT, CMV, AZS, AWA, BZA, UW, OX, FLG, RE, ARS, CHO, AJO, HH.

VK3CAG.

VK4s: FC, WR, BQ, WK, ZB, YD, MU, WB, BHS, FJ, WY, RU, CNP, NN, EF, AG, ZU, BET, FUQ, WC, WOZ, TB, PJ, LT and EQ.

VK5CH.

Via other bands: VK2s AVS, YI, ABS, BX, TT, ABM/M, CC, SM, BII, LS, ZW, AFU, ETW.

VK4s: BQ, WB, BHS, WY, BU, WB, UB, CJ, KRR, PT, CHO, ZB, OL, CGF, XAF, JHM, JI, OX, AAE, AG, VAS, YC, EZ, QY, BIF, XN, MWK, XAR, KGA, QV, NX, LBS, EKA, BSH, ALN, AGY, KH, BGC, NB, CSS, WD, AGS, KA, LO and FJ.

David VK4KLV ar

* There is a mystery about the CW operation of PY0SR which took part in May 1991 on St Peter and Paul Rocks. The QSL manager for the CW operation was PP5JD. Apparently nobody yet has received any reply QSL card for the CW contact. It is rumoured, and this cannot be verified, the cards will be returned by the bureau, which route might take years to complete. On the other hand, cards for the SSB contact of PY0SK came through via PS7KM Karl and Austin VK5WO. (See Jan '92 *AR*).
* During 1992, some Canadian stations will use the VC500 prefix celebrating the 500th anniversary of the discovery of the Americas by Columbus.
* Kare LA2GV will be active from Berkner Island (78.3S and 48.0 W IOTA AN14) from January until April this year as 3A2GV.
* Hank OH2TW is active as 7P8FE. He will be in Lesotho for the next three years. QSL to: OH3GZ.

QSLs Received

Note: W-week; M=month; Y=year; FM=from; MGR=manager and his call, OP=operator and/or call.

Direct: JW1UW (3W FM MGR LA1UW), J88BW (4W FM OP), 7P8EG (8W FM MGR K0JZM), HZ1AB (16W FM MGR K8PYD), XV2A (5M FM MGR JJ1TBB), FT4YD (8M FM MGR FD1NZO), ZA1QA (1M FM MGR QUICK AID QSL SERVICE), 9M2ZU/N4ZUV (7D FM OP), ZA1HA (3W FM MGR HA6KNB).

Bureau: 4X10Z (17M FM OP), ZS5ABW (14M FM OP), OH2AP/0JO (1Y4M FM OP), TR1G (1Y 4M FM MGR AK1E), KP4KC (2Y 5M FM OP), WB 3KBZ/VP9 (2Y 2M FM MGR KG8U), VI91AG (5M FM VK1 MGR), CX6CV (2Y 8M FM OP), HK0LIT (1Y 11M FM OP), 3D2EA (1Y 11M FM OP), ZP5ZR (1Y 6M FM OP), HC1OT (4Y FM OP), SV1LK (1Y 6M FM OP).

Thank You

Thank you to all my helpers, but especially to: K2DID, VK2KFU, VK2SG, VK3DD, VK3VNQ, VK4DA, VK4OH, VK8KV, VK9NS, V85EB, F9MD, and the following publications: *QRZ DX, The DX Bulletin* and the *DX News Sheet*. Good DX and 73 **ar**

EDUCATION NOTES

Brenda Edmonds VK3KT – PO Box 445 Blackburn 3130.
WIA Federal Education Co-ordinator

I write this just after having spent two days at a quarterly meeting of the Executive which I attend as minute secretary. Naturally, in such a position, I do not have a lot of input to the formal business of the meeting (although at times it is an effort not to add my comments). But, in the breaks, I catch up on what is happening in education in the Divisions, and I was, of course, very interested in discussions on the progress of WIA Exam Service and the facilities provided by the Divisions.

It was very pleasing to find that in most Divisions, clubs planning examinations are talking to each other and arranging to share the examination load. In this way, three or four neighbouring clubs can provide a monthly examination service for a large area without any club having to manage more than three or four events per year.

I did not hear, though, if this co-operation is being extended to the courses and classes as well. Classes for some years traditionally have begun in February or March for an August or November examination. I would hope the new system of examination more or less on demand would encourage the providers to consider arranging them end to end — eg, one club's course running from February to July, another's starting in August to pick up those who have been shown they need more instruction. Or perhaps one club could hold an upgrading course late in the year for those who wish to go on straight away. There is no need to stay with the traditional three hours one night a week. There may be a market for a short intensive course of, say, three weekends in a row, with an examination one evening in the following week. Whatever your plans in regard to courses, please be sure to inform your Division of them, so enquiries can be directed when received.

Are the clubs and examiners sharing other resources as well? Are they notifying their neighbours of their strengths as well as their needs? It is very important for newcomers to the hobby or to some particular aspect of it — newly licensed operators, class members, persons moving to new districts or experienced operators wishing to try a new specialty — to be able to find contacts within their interest groups. The whole hobby has always relied on the newcomer being able to learn from the more experienced operator. Does each Division or club have a register of "experts" in the special-interest groups (packet, satellite, RTTY, DX, UHF, fox-hunting ... there are dozens) who are willing to help the newcomers along? And do they have a system for informing members that these resources exist? I know this assistance is available — in most cases a plea on the local repeater will generally get results — but I am sure a more structured system would benefit many enquiries, and also save the Divisions and club secretaries a lot of time.

One obvious conclusion from this weekend's meeting and other sources is that the WIA is not meeting the needs of the newer recruits as well as it should. We cannot afford for new members to be lost simply because no-one bothered to make them welcome.

ar

AMSAT

Bill Magnusson VK3JT – 359 Williamstown Rd Yarraville 3013
Packet VK3JT @ VK3BBS

National Co-ordinator
Graham Ratcliff VK5AGR

Packet VK5AGR @ VK5WI Please take note of the AMSAT information nets:

AMSAT AUSTRALIA net:

Control station VK5AGR

Check-ins commence at 0845z on Sunday nights

Bulletin commences at 0900z

Frequencies 3.685MHz or 7.064MHz. At present 7.064MHz is used.

AMSAT SW Pacific net:

2200z Saturday on 14.282MHz.

Experienced satellite users and newcomers alike are welcome on the nets. A large body of experience is on hand to answer queries. Listen to the WIA Divisional broadcasts for regular AMSAT information.

AMSAT Australia Newsletter and Computer Software:

Satellite users, whether experienced or newcomers, will benefit by subscribing to the AMSAT Australia newsletter and software service. The newsletter is published monthly by Graham VK5AGR. Subscription is $20 payable to AMSAT Australia, addressed as follows:

AMSAT Australia
GPO Box 2141
Adelaide 5001

The newsletter provides up-to-date information on all current and planned satellite activity. Graham also provides a first class software service for satellite users. New software is reviewed regularly in the newsletter.

ABC Radio Interview

Congratulations to Maggie VK3CFI on her recent interview on ABC radio. The subject matter, of course, was the Russian space station MIR. She gave a good general account

of day-to-day life on board for the cosmonauts and how they divided their "days" into working time and recreational time.

Maggie dispelled some of the recent rumours regarding their well-being and the ongoing amateur radio activity. In the short time she had available, Maggie told how she had developed a close bond with the cosmonauts and how she'd been able to talk with them by voice and by computer about their families and friends and their interests back home. Listeners would have been left with a good impression of amateur radio and our connections with operations like MIR and the American space shuttle. Good work, Maggie!

Russian Cosmonauts' QSL Address

Cards and letters etc for U5MIR Sergei, U7MIR Anatoly and U4MIR Aleksandr may be directed to either Boris Stepanov, PO Box 679, 107207 Moscow Russia, or Valery Agabekov, PO Box 1, 375600 Yessentuki Russia. For QSL, don't forget to include SASE and IRCs. The present crew is scheduled to return towards the end of March. The new crew is reported to be Aleksandr (Sasha) Viktorenko as Flight Commander, Aleksandr Kaleri as Flight Engineer, and a German cosmonaut. Viktorenko has been on MIR two or three times before, with a total of six months on the space station. Musa Manarov is reported to be in Japan at the time of writing. Thanks to Maggie VK3CFI for the above news items.

Instantrak and Those "New" Keps

Much has been written lately about the change in the NASA 2 line keps format. Don't panic! If, like most people, you get your keps from a local BBS, they will probably have been modified back to the original format well before we see them in Oz. If your auto-update routine accepts them they'll be okay. If it bombs out, replace **all** the + signs with spaces during the editing. If you find this a bit tedious, use the AMSAT format keps. IT accepts either. There's a fix in the pipeline in the form of a "binary patch" which, when loaded, will attach itself to IT and do its thing every time you use auto-update. Evidently the format change caught quite a few users (not necessarily amateurs) by surprise.

Weather Satellites

Although not amateur satellites, these birds have a strong following among the amateur fraternity. They offer excellent avenues for experimentation and really **good** results cannot be achieved without a lot of effort. If there's enough interest I could include a paragraph on weather satellites from time to time. I know a couple of amateurs who are very active in that area. I'm sure they could provide info on the latest activity if I asked them nicely. Let's have some feedback.

RS-10/11/12/13 Report

My chief spy tells me there has been a welcome increase in activity on the RS satellites. Even some "rare DX" in the form of Groote Eylandt. Three or more states and ZL have been heard on some evening and daytime passes. Bill VK3WEG (my spy) also reported that the beacon and robot frequencies appeared to be reversed on one occasion recently when he tried to operate. Moral: listen on both and try uplinking on both if you find the robot is not answering. As I've said before, these birds provide an excellent way of getting your feet wet on amateur radio satellites. A recent packet bulletin from G3IOR indicates many European amateurs are having a lot of success with "over the horizon" contacts using RS/12 on mode KT. Good CW contacts have been reported across the north pole when the satellite is as much as 45 degrees below the horizon. Translating that into our part of the world means that contacts into Asia, Japan, the Pacific Islands and even South America over the South Pole should be possible. I'd like to hear of any success in this area. Mode KT uses 15 metres up and 10 metres down. In Europe the frequencies 21.214MHz up and 29.414MHz down are used for calling when looking for this type of contact. Might be a good idea to stick to the same frequencies here (you never know your luck).

ar

Satellite Activity for November/December 1991

1. Launches

The following launching announcements have been received:

Intl No	Satellite	Date	Launch Nation	Period min	Apg km	Prg km	Inc deg
1991 —							
081A	COSMOS 2173	27 Nov	USSR	104.8	1030	965	82.9
082A	USA-73	26 Nov	USA	101.9	870	846	98.9
076C	USA-74	08 Nov	USA				
083A	EUTELSAT-II F3	07 Dec	ESA	996.4	41008	12347	17.0
080B	USA-75	24 Nov	USA	Deployed from STS0-44			
076D	USA-76	08 Nov	USA				
076E	USA-77	08 Nov	USA				
084A	TELECOM-2A	16 Dec	ESA	764.8	35769	6910	1.9
084B	INMARSAT-2 F3	16 Dec	ESA				
085A	Unknown	17 Dec	USSR				
086A	INTERCOSMOS 25	18 Dec	USSR	121.7	3080	440	82.5
087A	RADUGA 28	19 Dec	USSR	24h 32m	36500		1.5

2. Returns

During the period 31 objects decayed including the following satellites:

1981-060A	MOLNIYA 1-50	14 Dec
1981-115A	BHASKARA 2	30 Nov
1991-071A	COSMOS 2163	07 Dec
1991-080A	STS-44	01Dec

3. Notes

1991-086A INTERCOSMOS 25 also carried a Czech subsatellite called Magion 3.

Bob Arnold VK3ZBB

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- Aust/NZ distributor for Create antennas/ rotators & Phillystran (Kevlar) non-conducting guying materials.
- High gain VHF & UHF amateur, scanning & TV antennas.
- Butt section triangular aluminium towers for fixed or tilt-over applications (refer March/April 1987 *AR*).
- Selections of power chips and TX tubes at friendly prices.
- VSWR/PWR metres by Diamond to 1300MHz 5 models. All in stock.

REPEATER LINK

WILL MCGHIE VK6UU @ VK6BBS – 21 WATERLOO CRS, LESMURDIE 6076

Link Thoughts

A recent get-together of our local repeater club devoted the whole meeting to linking. It was a real think session on where the club was going on this issue. The following is the result of several hours of discussion.

The most interesting point at the meeting was the concept of a cell. A cell was defined as any number of repeaters that are all within radio range of each other. As the accompanying diagram shows, repeaters 1, 2 and 3 form a cell, as do 4, 5 and 6. A UHF signal from any one site can be received at any other site in that cell.

This cell situation occurs often. When linking several repeaters together, it is not necessary to use different link frequencies between each repeater if they are all within radio range. Not only does this save on spectrum space, but also on hardware.

This concept of using the same link frequency for all links within the same cell has many advantages. Only one link transceiver is required at each site. Any link signal transmitted at any site is received at all other sites within the cell. A minimum amount of equipment is required at each site, a big plus for amateur installations with limited resources.

To link cells, a repeater in one cell must be within radio range of a repeater in the other cell. In the diagram, sites 3 and 4 are within radio range of each other and on a separate UHF link frequency link cells.

Other combinations of link frequencies could be used within the cell concept. One such combination results in one less link transceiver required. The diagram shows a link idea you may not have thought of and may suit a linking situation in your area.

1992

Nineteen-ninety-two may well be the year that fundamental changes to amateur radio regulations take place and, in particular, repeater regulations.

The WIA has before DoTC recommendations to liberalise many aspects of repeater regulations. These changes are not more regulations to overcome regulation anomalies that already exist, but fundamental changes. Instead of being regulated on the maximum number of repeaters that can be linked and how they can be linked, amateurs would prefer to decide for themselves.

For a hobby that is part of the rapidly changing electronic world we live in, fine detail regulations have a detrimental result to amateur radio.

Phone Patch

A recent conversation on a local repeater about phone patch was interesting, as it indicated the true facts are not known by some amateurs.

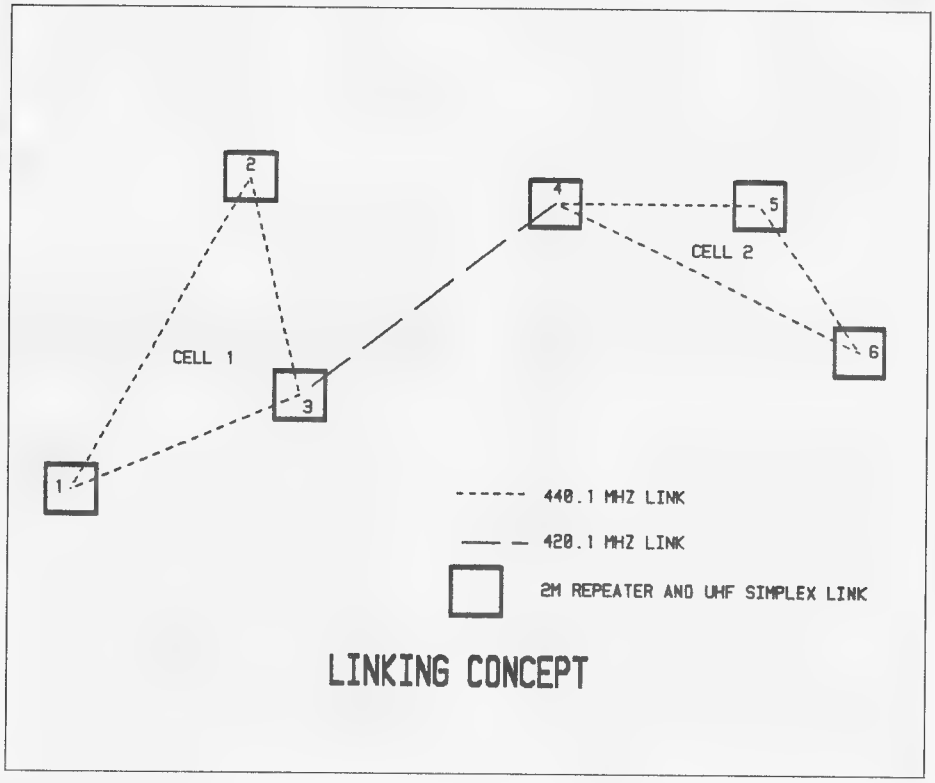
The point was being made that as Australian amateurs have had phone patch privileges for several years now, why are there no repeaters connected to the telephone network? Such systems as there are in the States, where amateurs can make a phone call via their local repeater using a DTMF keypad.

The answer is Australian amateurs may have phone patch, but not on our repeater network. A specific regulation prohibits connecting the telephone network to any repeater. The correct term is actually AUTOPATCH, as the system is automatic. Unlike phone patch on HF, where an amateur is in attendance and in complete control at all times, autopatch on a repeater is automatic. The difference, however, between the two is probably not why Australian amateurs do not have autopatch. If anyone out there knows why autopatch is prohibited in Australia, please let me know so I can pass the information on to others.

Further on the same point, is phone patch from an amateur's station via a repeater legal? The regulation against autopatch may spill over into this mode of operation as well. If phone patch via a repeater is legal, could a form of autopatch be provided via a repeater to an amateur's QTH connected to the telephone system?

The more you delve into the world of regulations, the stranger the world becomes ...

ar



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SPOTLIGHT ON SWLING

ROBIN L HARWOOD VK7RH – 52 CONNAUGHT CRES, WEST LAUNCESTON 7250

In late January, a new clandestine station commenced broadcasting. It is located in Arawa, Bougainville and is called simply "Radio Free Bougainville" and operated by the secessionist government, which has declared its independence from Papua-Nuigini. It can be heard on 3880kHz from 0700 to sign-off at 1130 UTC. It is on AM. Signals are weak and the power is estimated to be between 500 to 1000 watts, although it also has stated it will be on USB, between 21450 and 21500kHz. Presumably they are using amateur radio transceivers.

This isn't surprising, as a Sydney ham has been involved in the establishment of the station and has been observed working a string of JAs on 15 metres under the callsign of C1A from "Free Bougainville". Many VKs and ZLs are naturally wary and cautious, as C1A is a pirate station, and the DoTC regulations are straightforward that contact with pirate or unlicensed stations on the amateur bands is prohibited.

The Papua-Nuigini Government has formally protested to the Australian Government over the actions of an Australian amateur in Bougainville, which is a province of Papua Nuigini. Bougainville as an independent state has not been recognised by any national government or international agency.

It was 67 years ago that the BBC commenced broadcasting from Daventry, both on MW and with the Empire Broadcasting Station on shortwave. Callsign then was 5XX. On 29 March, the Daventry site is to permanently close, and amateurs in the UK have obtained permission from the BBC to utilise the current arrays, before they are pulled down. A special events station — GB67XX — will be operational on 4 and 5, and again on 11 and 12 April. No set frequencies have yet been announced. Incidentally, the Daventry senders are on a very historic archaeological site, and ownership of the land will revert to a historic trust which is preserving it. However, one mast will remain to indicate that shortwave broadcasts commenced there.

Don't forget that the next broadcasting period — the M period — commences on the first Sunday in March. However, most European broadcasters make their alterations on 29 March, when continental Europe goes on to Daylight Saving Time.

The BBC World Service has introduced a third release of its "Newshour" program, at 0500 UTC. This sees the demise of "24 Hours", although "The World Today" continues, but is now transmitted at 0615 UTC. Swiss Radio International in Berne has reorganised this program output. The three languages of the Confederation — French, Italian and German — will have two separate streams: one for Swiss travelling abroad, and the other for expatriate Swiss. As well, SRI has axed programs in Esperanto. This leaves Radio Beijing and Vatican Radio as the only international broadcasters in Esperanto.

I have been testing the Digitor A-4338 four-band digital world band radio. This pocket radio is phase locked and is very compact and well presented. There are five presets on each of the four bands, making 20 in all. There are two shortwave bands — from 3.2 to 7.3MHz and 9.5 to 21.75MHz, plus MW and FM. It runs on 4.5 volts DC at 300Ma.

There is an AC/DC jack. The radio also has an inbuilt clock. On performance, I was very surprised at the sensitivity and selectivity of this small set, although it seems to work better in the evening hours. When the bands are dead, hooking it up to an external aerial brought in signals the telescopic whip couldn't pick up. Yet, when there were strong signals present, the set easily cross-modulated and one quickly reverted to the telescopic whip. The set doesn't have a BFO for resolution of SSB signals. The set was reasonably priced and would be ideal as a portable back-up.

That is all for now. Until next month, good listening.

POUNDING BRASS

GILBERT GRIFFITH VK3CQ – 7 CHURCH ST BRIGHT 3741

Q&Z Code Book

If you, like me, occasionally have trouble remembering your Q codes, there is a publication available containing all the current Q and Z codes. This English language, 82-page booklet by PA0BFN and PA3ALM is a handy reference book for every shack, and its intention is to stimulate greater use of the codes. While today's Q code takes up 36 pages, the original 1912 version is contained on one page. QSB meant "is my tone bad? or "is my spark bad?"; QRG was "What (shipping) line do you belong to?"; QRZ, "Are my signals weak?"; and QSL, "Did you get my receipt?". A lot of changes have taken place since 1912 and, of course, amateurs have adapted many of the codes for their own use.

The Z code is hardly known by amateurs today, although there are still some examples in the *RSGB Radio Communications Handbook*. There are 23 categories covering every type of signal, from various aspects of aviation, to meteorology, general traffic and "various". This last category includes ZUF1, "Air raid warning"; ZUF2, "Air raid in progress"; and ZUF3, "all clear". I hope we won't have to use any of these particular signals, but there are certainly a number of Z codes which could be revived for amateur use with advantage.

The Q & Z Code Book is currently still available (it was first published sometime prior to 1987) from Dick Kraayveld PA3ALM, Merellaan 8, 3145 XE Maassluis, Netherlands. Payment is in banknotes only, and cost is $US10 for seamail and $US12 for airmail.

Sending Morse

The heart of the telegraph code is timing. Each element, dit, dah and space, must be proportioned reasonably well in order to be intelligible. And, unless the letters are separated by the proper space, how can we tell for sure what letters they are? Words run together put a heavy burden on the writer inordertodecipherthemdon'tthey? By contrast, the well sent, properly proportioned signals stand out like landmarks of clarity.

Let' s look at the problem of distorted code a bit more fully, and from the intelligibility aspect. Most of us can read sending where the dits are too fast for the dahs — that is, the dahs are disproportionately long. They are a bit distracting, but not incomprehensible. On the other hand, there are those who make their dahs so short that at times they sound like dits — and that is troublesome; we can misunderstand.

While it can be annoying, the occasional miss-spelled word or abbreviation can usually be understood, and all of us slip up this way at times. It is no major stumbling block. And we sometimes send too many dits for characters like S, H and 5, B and H etc. These are forgivable slips and, in most cases, can be correctly understood.

But it is a lack of spacing of letters within words (and calls) and between words that causes most of our problems. Leave out the space between TT and it becomes M; similarly, spacing errors can make ST sound like V (and vice versa), G lime ME, C like NN. This list is long. Does this happen because of wrong initial learning of each character as a distinct unit in itself? Or is it misplaced haste that leads to running letters together? Haste that leads to this leads only to unintelligibility.

Perhaps the commonest fault with spacing concerns the need to keep words separate. I sense at times this is due to undue hurry to get the thought across. But, in so doing, the receiver is deprived of the key element in his reading and understanding — where each

word begins. English is not an easy language to decipher when its word-beginnings are not marked.

Maybe we can all profit (including new learners) from some drills in sending. Many years ago Walter Candler recommended the following to help us develop a good timing sense:

Drill 1: Send the letter S, counting the dits as you send them, then keep counting up to, say, 12 and, without hesitating, send a second S, and so on until you have sent 20 or 25 of them. Gradually speed this up by dropping out one count, until normal letter spacing is reached (the length of one dah). Try it with the letter O etc. Both drills may be speeded up as you send faster, keeping the same spacing proportions.

Drill 2: Take a simple sentence, sending it first with wider than normal spacing between the letters and words, and then gradually shorten these spaces to the normal length, being very careful to keep the letters and words distinct, eg, if a single dash represents longer spacing between letters, and a double dash a longer spacing between words, it would go like this: g-o-o-d—s-p-a-c-i-n-g—i-s—e-a-s-y—t-o—r-e-a-d, etc. Then gradually bring it to normal.

A keyboard and an iambic keyer will always make perfect characters with proper proportions between and among the internal parts. What is sent may be wrong, but it will be properly made wrongness. But, with an ordinary hand key or semi-automatic key, there will always be some evidence of one's individuality. Let's not let it get out of hand. After all, the purpose of the code is to convey intelligence, not to present the listener with a puzzle.

Let's not burden the listener with more than the QRM and QRN he is probably struggling with, by making our message garbled! As someone noted, well sent code comes through interference much better than poorly sent code.

I noticed in Over-to-You for February that David VK2KFU has reminded everyone that the word spacing for Morse characters is seven dot lengths. I must admit that when I wrote the article for January I did not notice the discrepancy between what was taught by the Marconi school way back then, and current practice. Not that I try to keep my own sending to such close tolerances; I find the spacing required depends much more on the conditions on air at the time, speed of operation etc.

Here is a sending exercise passed on to me by Allen VK2ALC, who says, "The ex-PMG-telegraphist in 6 Div Sigs made us practise—POSSESSES POSSESSES MORE ESSES THAN ANY OTHER WORD POSSESSES.

73, Gil AR

INTRUDER WATCH

Gordon Loveday VK4KAL – Aviemore, Rubyvale 4702

IARUMS Summary

December 1991

Freq	*UTC*	*Date*	*Mode*	*ID*	*"X"*	*Comments*
7002.5	1128	251191	A1a	V	17	Beacon Vladivostock
7008.5	1030+	251191	F1B	MNR	16	+A1A 250Hz 3rd Register, USR
7013.5	1000+	251191	3xR7B		4	
7038	0900	051291	A2A	VT8	4	Russian morse mixed cypher
7039.5	mni	0212	F1B		13	250Hz RTTY 3rd Register USR
7048/9	mni	251191	F1CW	UHF3	17	+F7B Blocks of 5 figures USR
14002	1830+	271191+	N0N		8	S9+ in VK5 continuous
14045	0920+	mni	N0N		8	Guard carrier for R/telef, +B9W
14046+	mni	dly	J3E/L		17	2ch x LSB R/Fone + 1 ch carrier
14058+/-	mni	dly	AC3		27	Fax China Helschreiber type
14070	1030+	0212	A1A	VBX		
14075/85	0130+	2312+/-	A1A	VBX	12	Clones of VRQ Vietnam
14073/5	mni	dly	A1A	VRQ	61	Many fake callsigns in this group
14075	1200	291291	A2A	VRQ	1	New mode copies this group?
14075	0130/33	dly	A1A	KFB	30	CQ de KFB see above "family"
14076	mni	dly	A1A	AF1W	2	Same family as 2 following!
14092	021291	0820+	A1A	RGT77	5	Coded messages
14100	1112	0930+	A1A	NZB	14	Coded messages
14220-14140-14165 & 14177, with c/signs "rmks/PR2/P8U & UID80 seem to originate (after cross-checking) from VRQ territory, with little hope of removing.						
14210/5	1000	271191	A1A	P7A	8	P9K de P7A (more of the same)
14211.5	mni	251191	2x F1B		20	Not F7B + mided modes + b/caster USR
18075	1236	121291	A3E		5	B/caster talk in Russian
18080	1258	2812	A3E	RMosc	15	R Mosc JAMMING "R Free Europe" s/freq
18090	1215	041291	A3E		3	European b/cast, music, voice, weak
21031.5/21283.5		daily	mxd	UMS	52	MNR 250Hz 5 fig to UUMS & UUUUMS!
21405	0550	231291	A3E		25	Com b/caster
24925	1206	2212	J3E/L		2	Russian military
29228	1059	211291	A3E	BBC		World Service BBC/time pips 1100

My thanks this month to VKs 4AKX, 4BHJ, 4BTW, 4BXC, 4EKA, 5TL, 6RO, 6XW and 6BGF.

Have you advised DoTC of your new address?

A Call to all Holders of a Novice Licence

Now you have joined the ranks of amateur radio, why not extend your activities?

The Wireless Institute of Australia (N.S.W. Division) conducts a Bridging Correspondence Course for the AOCP and LAOCP Examinations.

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WIA
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Parramatta NSW 2124
(109 Wigram Street, Parramatta)
Phone: (02) 689 2417

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7 to 9pm Wednesday

Prevent pirates - make sure you sell your transmitter to a licensed amateur.

KNUTSHELL KNOWLEDGE

GRAHAM THORNTON VK3IY

A brief overview of what other magazines have to say. The information given below has been supplied to the WIA free of charge by Thornton Publishing. Your divisional library may have copies of the references quoted.

Antennas

Multiband

Al's W8JK. William Skidmore VE3AUI, *QSTVE* Dec 1991 pp 3 - 4, 15. il diag. A forty foot long W8JK with 10 foot spacing is described. Good results are reported from 20 to 10 metres.

Product Review

ZD Engineering Hardline Matching Transformers. Larry R Antonuk WB9RRT, *73* issue #375 Dec 1991 pp 29 - 30. il photos. A review of quarter wave matching transformers used to convert low attenuation 75_ hardline CATV cable to 50_.

VHF/UHF

The Quag-V. Leonard Shick WB3AYW, *73* issue #375 Dec 1991 pp 36, 38, 40. il diags, graphs and photos. The driven element and reflector are both constructed as double quads bent at right angles about their centre conductor. If dipole directors are added, the feed point resistance drops from 75_ to 50_. A 10 MHz bandwidth is obtained.

Audio

A Quality Desk Mike for Under $25. Ron Klimas WA1VRH, *QST* vol LXXV No 12 Dec 1991 pp 26 - 28. il cct, graph and photos. An active microphone, based on an electret element, is designed for optimum speech response. Built-in operational amplifiers provide both gain and filtering.

Chip Talker. Joe Jarrett K5FOG, *QST* vol LXXV No 12 Dec 1991 pp 17 - 22. il ccts and photos. A record/playback device is designed to transmit recorded speech. An ISD IC is used to directly record signals in audio, not digital, form. A maximum duration of 20 seconds is provided; this may be sub-divided. The memory is non-volatile, and will remain up to 10 years independent of DC power.

Narrow Band Modes

The BayCom Packet System. (Product Review) Dick Goodman WA3USG, *73* issue #375 Dec 1991 pp 20 - 21. il photos. A simple modem is available from A & A Engineering which, when used with appropriate software, enables a computer to use packet without a TNC.

An Optical, Through-the-Air Digital Communications Modem (2). Lawrence E Foltzer, *QEX* #118 Dec 1991 pp 3 - 7. il diag, pcb and photos. Details of the construction of the complete equipment, including the lenses, is given in this part. The factors determining the choice of components are discussed.

Voice Mailbox at the UHF/VHF Conference in Weinheim. Don Moe DJ0HC/KE6MN (Translator), *QEX* #118 Dec 1991 pp 8 - 11. il diag, cct and photos. A translation is given of an article in cq-DL November 1991, which was written by Johannes Kneip DG3RBU, and Florian Radlherr DL8MBT. The development of a digital voice mailbox is described. A design is presented for an interface so that an AT PC can be used to digitise the voice signals, and the converse. A technique of progressive slope detection is used for A to D conversion.

Power Supplies

The 'Cheap and Simple' Power Supply Revisited. Vern A Weiss WA9VLK/G0NBZ *73* issue $375 Dec 1991 pp 66, 68. il ccts. A modification to a previously described power supply with the same title is presented. It is capable of 25A output at 13.8 volts. Regulating the output voltage, instead of the bases of the output transistors, eliminates the 0.4V drop under full load experienced with the previous design. *(Editorial Note - Figure 2 appears to be wrongly drawn. The output transistors are shown as PNP instead of the ubiquitous 2N3055s specified in the text. In addition, the emitters and collectors seem to have been transposed. The 0.25Ω current sharing resistors should, of course, be in the emitter leads. An intending constructor would be wise to consult later issues of 73 for an update.)*

Receivers

Computerized Tuning for Ramsey Receiver Kits. Mike Gray N8KDD, *73* issue #375 Dec 1991 pp 42, 44. il cct, cmp, photo and pcb. A DAC is used to convert computer output to a voltage suitable for the varactor tuning diodes of Ramsey kits. A design is given for an interface to achieve computer control of frequency.

Technology

The Double-Tuned Circuit: An Experimenter's Tutorial. Wes Hayward W7ZOI, *QST* vol LXXV No 12 Dec 1991 pp 29 - 34. il ccts, graphs and photos. A dissertation is given on the design and adjustment of double-tuned circuits. Graphs are given to illustrate the effects of undercoupling, overcoupling and critical coupling. Practical considerations are considered for both HF and VHF.

Transceivers

Going Mobile (1). Steve Ford WB8IMY, *QST* Vol LXXV No 12 Dec 1991 pp 23 - 25. Tips are given for VHF/UHF installations in motor vehicles. Hand-helds, with or without amplifiers, are considered for this application.

The Ramsey 2 Meter Transceiver Kit. Rick Littlefield K1BQT, *73* issue #375 Dec 1991 pp 18 - 19. il photos. A review is given for this kit produced by Ramsey Electronics. It is PLL synthesised from 144 to 148 MHz, with a power output of 5W.

The Yaesu FT-990. Bill Clarke WA4BLC, *73* issue #375 Dec 1991 pp 32, 34. il photo. A review is given of this transceiver without laboratory measurements.

Transmitters

The Simple TX TX. (Texas Transmitter) Bruce O Williams WA6IVC, *73* issue #375 Dec 1991 pp 10, 12, 14. il cct, cmp, pcb and photo. A design is given for a crystal controlled CW transmitter which provides about 2W output. Component substitution allows operation on any band between 20 and 80m.

Glossary of Abbreviations

il The article contains illustrations, a list of which follows.
cct A circuit diagram
cmp A component layout drawing
EA *Electronics Australia*
diag A mechanical drawing
pcb A master drawing from which printed circuits may be produced
QSTVE *QST Canada*
RadCom *Radio Communication*
RadZS *Radio ZS*
73 *73 Amateur Radio Today*

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***AR* 20—Year Index**
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DIVISIONAL NOTES

VK2 NOTES

TIM MILLS VK2ZTM

Annual General Meeting

Members are reminded that the 1991/92 AGM will be held on Saturday 2 May 1992 at Parramatta. Agenda items and nominations close at the same time, which is 2pm on Wednesday 18 March 1992. These must be received at the registered office, 109 Wigram St, Parramatta by this time. The formal notice of the AGM and annual report will be included as an insert in the April issue of *Amateur Radio*.

VK2WI Dural

With work scheduled to be carried out on one of the Dural towers, the 80, 40 and 30m antennas are in the process of being relocated. While this will place the main lobes in different directions, signals should still reach most regions. The IPS forecasts for March indicate the optimum working frequency to most points of VK2 will be about 10MHz, hence our transmission on this frequency, morning and night, should provide the best signal. In the short time since the start of this year, the OWF has risen about 2-1/2MHz. The January charts showed that 7MHz was closest to the OWF.

Happenings

The VK2 class for the year commenced early last month. Conducted each Monday evening, it is scheduled to run until November.

There is still time for anybody with some understanding of electronics to join the class. The class is held in the library at Parramatta. Contact the Divisional office by one of the methods listed on page 3 for further details.

The next Divisional exam will be conducted at Parramatta on Sunday 24 May.

Well, the Gosford Field Day is over for another year, but don't forget the Urunga Convention over Easter, or the Oxley Region Field Day at Port Macquarie on the June long weekend. Both hold good foxhunts, and the Sydney types may have had some practice since the start of this year's activities on 1 March.

A reminder that the VK2 office holds VHS copies of the Federal videotapes as listed on pages 31/32 of last month's *AR* this year. VI150SYD for the 150th birthday of the City of Sydney, details from the office. The other is VK2RC, being operated by John VK2DEJ for the 200th birthday of the founding of Ryde on Sydney's lower North Shore.

Divisional Services

One of the services provided by the NSW Division is the venue for the bi-monthly Trash and Treasure events. The car park at the rear of Amateur Radio House, 109 Wigram St, Parramatta, is the location. The time is the last Sunday afternoon of the odd-numbered months, except when this is on a long weekend. The next T&T will be the end of this month, Sunday 29 March. The gates open at 2pm. Sellers are admitted at 1pm to set up their stands. There is a table or space hire of $5 to members and $10 to non-members.

At intervals the Division has some surplus equipment and joins in the selling. Surplus copies of magazines from the library are bundled up and sold off, the proceeds going back to the library to assist with its operation.

The afternoon is also a social event as the attendance usually runs to a few hundred over the couple of hours the event takes.

The dates for the balance of the year are 31 May, 26 July, 27 September and 29 November.

VK4 NOTES

DAVID JONES VK4KLV

All amateurs are cordially invited to attend the VK4 Special Activities Day, to be held in the Kathleen Room of the Staff Club, St Lucia Campus of the University of Queensland, on Saturday 4 April.

The day's activities will commence with an opening and displays at 10am local, and at 10.30am there will be a lecture on TCP/IP. The guest speaker will be Andy Joyce VK4KIV. After his hands-on lecture, lunch will be served in the seminar rooms until 1300, when we will conduct a Regional Amateur Conference. This conference is open to any and all attendees, and the agenda subjects are as published in February *QTC*. Any subject may be raised from the floor, time permitting. Afternoon tea will follow at approximately 1500, and at 1530, our special guest Bill Roper VK3ARZ will conduct a Q And A session based entirely on what **you** want to hear about.

At 1630, the 1992 Annual General Meeting of the VK4 Division will be conducted. Nominations are now being called for election to the Divisional Council, and a form for this purpose was published in February *QTC*. Following the AGM, more general talks will take place, finishing off any unfinished subjects from the RAC.

Finally, we round out the day from 1830 with a dinner to celebrate the 80th anniversary of the formation of the original organisation which subsequently became the WIA/Q. During dinner, we will be joined by David Jull MP, Member for Fadden and Mrs Jull. David has supported and attended several Radio Club Conferences, and has assisted us on many occasions.

The total fees for the day's activities, including all meals (but not drinks) is $35, or $20 for the dinner alone. All interested in attending should contact David Jones VK4KLV (QTHR 1992) on (07) 2051561.

5/8 wave

JENNIFER WARRINGTON VK5ANW

Volunteers Anonymous

When I recently handed over to Rowland VK5OU the list of names of volunteers to whom the Christmas cards are sent, I think he was surprised and impressed at the number of people involved. In fact, he was so impressed he read out the list on the broadcast; so, for those of you who missed it, here at least are the current Slow Morse panel operators and the relay operators.

Slow Morse Panel

Wayne Kingscott	VK5AC
Trevor Howard	VK5BWF
Ron Vernon	VK5AAC
Emlyn Jones	VK5AEJ
John Ruston	VK5ARK
Kingsley Braver	VK5NOU
Ivan Smith	VK5PAW

(The last three are at Renmark, and Trevor is in Port Lincoln. So, as you can see, distance is no barrier to volunteering for this job, if you'd like to help).

Broadcast Relay Personnel

160 Metres	
Hans Smit	VK5YX
Merv Millar	VK5MX
Ron Coat	VK5RV
Clarrie Castle	VK5KL
John Scougall	VK5YY
Bill Walker	VK5WW
80 Metres	
John Butler	VK5NX
Ron Vernon	VK5AAC
Bernie Samels	VK5ABS
40 Metres	
Murray Burford	VK5ZQ
Ron Kelton	VK5ZR
Ross Dow	VK5KF
20 Metres	
Ross Delon	VK5AG
Charlie Baldacchino	VK5ACF
Colin Taylor	VK5CE
10 Metres	
Chris Owen	VK5UH
Adelaide Hills ARS	VK5BAR
6 Metres	
Bob Wake	VK5KZZ
Ross Cunningham	VK5KMH
Peter McGregor	VK5APA
2 Metres	
Chris Whitehorn	VK5PN
Garry Percy	VK5OR
Tony Hurren	VK5PBH
Bill Wardrop	VK5AWM (doesn't get a card as he's on Council)
Mac McKinnon	VK5AM (Mid-North Repeater)
Graham Johnston	VK5SU (Mid-North Repeater)
Henry Andersson	VK8HA (Darwin)
Frank Turnham	VK8FT (Darwin)
South East Radio Group	VK5SR (Mount Gambier)
Naracoorte ARC	VK5ARN (Naracoorte Repeater)

70cm
Barry Chammen VK5KCX (Barossa Repeater)
Steve Bigg VK5BCD (Barossa Repeater)
Elizabeth ARC VK5LZ (Elizabeth Repeater)

Amateur Television
Greg Weaver VK5ZBD

Reserve Helper on Several Bands
Jack Crawford VK5AHI

You may realise from the names and callsigns that many of these amateurs do other jobs for the Institute as well. We can never have too many volunteers, and I happen to know that Chris VK5PN is looking for operators on several bands, including two metres. Chris is the broadcast relay co-ordinator, so if you can help, please ring him on 261 3221.

If any of the information I've given is not correct, particularly from the country areas, would you please let Rowland or me know.

Diary Dates

24 March General Meeting
31 March Buy and Sell Night

VK6 NOTES

HARRY ATKINSON VK6WZ

The 1991 Amateur of the Year is Laurie Del VK6ZLD who received the honour for having "worked tirelessly as an approved examiner and, over the past two years, has enabled many amateurs to upgrade their class of licence, as well as having provided the path on which many newcomers have entered our hobby". The quote is from Divisional minutes.

Other presentations made at the December meeting were to successful participants in the Annual WA Eighty Metre Contests. Placegetters were (CW): VK6s PGG, BN and AFW. (Phone): BN, BGF and DE.

Because of family movements taking place earlier than originally planned, John VK6GU has handed in his resignation as a councillor of the VK6 Division and also as book sales officer. Until an official announcement is made as to John's successor, address your bookshop queries to Box 10, West Perth 6872, or by phone to the secretary (09) 388 3888.

We wish John and his XYL Hope much enjoyment and safe travel in the next few years as they swap their delightful hillside QTH at Armadale for a home on wheels — and a long, leisurely safari revisiting old haunts and renewing friendships.

Annual General Meeting Notice of AGM

It is hereby notified that the Annual General Meeting of the West Australian Division of the Wireless Institute of Australia will be held on 21 April 1922 following the General Meeting which commences at 8pm. The meeting will be held at the Westrail Centre, East Perth.

Agenda

1. Consideration of the Council's Annual Report
2. Consideration of the Financial Report
3. Consideration of other Reports
4. Election of Office Bearers, viz President and Vice-President of the Division and seven other Councillors
5. Election of two Auditors
6. Appointment of a Patron
7. General Business which has been duly notified

Notice of motion for the AGM must be received by the Secretary not less than 42 days prior to the meeting and must be signed by at least three members.

Nomination of a candidate for election to Council must be received by the Secretary in writing not less than 42 days prior to the meeting, with an intimation that such candidates are willing to act. A candidate may submit a statement not exceeding 200 words outlining his or her case for election, and experience. Each nomination shall be signed by two members proposing the candidate.

Candidates must possess a current amateur licence.

Proxies

Any financial member entitled to vote may appoint a proxy, who must also be a financial member entitled to vote, to speak and vote on his/her behalf. Each such proxy must be in the hands of the Secretary prior to the meeting and be in the following form:

I, ..., a member of the Institute, hereby appoint ....., also a member of the Institute, to act for me as my proxy and in my name to do all things which I myself being present could do at the meeting of the Institute held on

Signed:

Witness:

Date:

nr

CLUB CORNER

Riverland Radio Club

The Riverland Radio Club held its Christmas party at the historic Overland Corner Hotel on 14 December. The group of 33 enjoyed the atmosphere of the hotel created by the old building.

The hotel regained its licence on 5 July 1991 after almost 100 years. After dinner the group retired to a houseboat moored nearby, owned by Tony Hutchinson VK5ZAI.

Radio Amateurs Old Timers Club

The Radio Amateurs Old Timers Club was founded in 1975 to form a link among amateurs who had been on the air for 25 years or more. Membership is open to those who have held a licence or who have been qualified to hold a licence for 25 years or more. As of now, that means qualification prior to 1967.

So it's not just a group of old fogies!

Membership subscription is $10 each year, payable by 30 June. Membership application forms can be obtained from the club secretary Harold Hepburn VK3AFQ, 4 Elizabeth St, East Brighton 3187.

A monthly broadcast and call-back started in 1978 and continues on the first Monday of each month except January.

The aim is to give details of members' activities plus other items of topical or historic interest.

Time and frequencies are as follows:

10am Melbourne time. 144.570MHz FM and 7.060mHz SSB

11am Melbourne time. 14.050MHz SSB beaming north

12 noon Melbourne time. 14.150MHz SSB beaming west.

A magazine, *OTN*, began publication once per year in 1985. The next issue is due out in early March.

With regret the committee has had to decide not to send it to members who have not renewed their subscription this year. Members in different stages get together for lunches or dinners from time to time. The next luncheon in Melbourne will be on Wednesday 18 March at the Bentleigh Club, which has proved a popular venue in the past. Cost will be $20 plus refreshments. Snow Campbell VK3MR will be telling of some of his radio activities during the years he spent as a prisoner of war in Germany.

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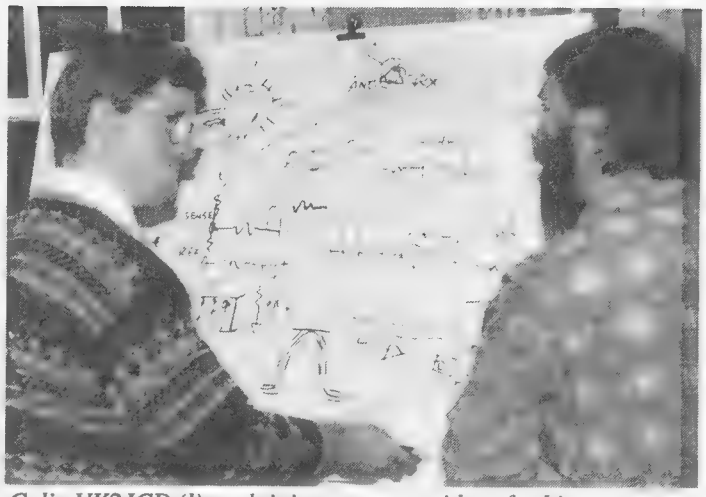
Don't buy stolen equipment - check the serial number against the WIA stolen equipment register first.

Steve VK2DU (r) about to sample a more traditional "home-brew" developed in the shack of Peter VK2ETK (l).



Colin VK2JCD (l) explaining some new ideas for his next project to Gio VK2FJP (r).

Nick VK2AOH (r) demonstrating to John VK2XRE (l) the QRP CW transceiver he designed.

(Photos by John Meagher VK2AMV)

Peter VK2ETK (l) discussing some of the finer points of a high power modulator designed and built by Peter VK2ALL (r) for his proposed 160m transmitter.

Orange & District ARC

Home-Construction of Amateur Gear is not Forgotten at Orange

The "art" of home-brewing is as old as amateur radio itself and has, until relatively recently, been the only method by which amateurs were able to get themselves on the air.

Home building is still an important part of amateur radio and is especially important to those amateurs who do not have kilo-dollar budgets to buy commercial gear, or who are exploring the microwave regions of the bands, or those who are developing new communications techniques.

Remember, building your own gear is a privilege available to the amateur radio service!

The Orange Amateur Radio Club has for many years encouraged home construction by holding an annual home-brew competition, but interest and enthusiasm have waned in the past year or so. Following some discussions, it was decided to change the format of the evening, so the emphasis was on participation rather than competition.

Members were asked to being along any project which they had been working on — be it simple or complex, fully working or still under construction, their own design or a kit. They were encouraged to show others with less experience what can be done and how to do it.

The result was the best attended meeting for as long as most people could remember. Everyone got some new ideas and learned a few new "tricks of the trade". But, most of all, everyone had **fun!**

Bruce Carroll VK2DEQ, President
PO Box 1065
ORANGE 2800

Ian Jones (l), who is studying for his amateur exams, examines an HF regen receiver constructed by Peter VK2EPD (r).

QSLs from the WIA Collection

KEN MATCHETT VK3TL HON CURATOR, WIA QSL COLLECTION
4 SUNRISE HILL ROAD, MONTROSE 3765. PH: (03) 728 5350

Liechtenstein — Fairytale Principality

This land-locked country lying between Austria and Switzerland is the fourth smallest country in Europe. It has an area of 160 sq km, which makes it about 1/15th the size of the ACT. The country is a constitutional monarchy, the Prince living in a fairytale castle in the capital, Vaduz. Liechtenstein was ruled by various noble families during the Middle Ages but assumed its political identity through the Holy Roman Emperor, Charles VI in the early 1700s. Ever since 1923 it has had particularly strong economic and political ties with Switzerland. It uses the Swiss franc as its currency and its foreign policy and diplomatic relations are handled by that country. It therefore comes as no surprise that in the field of amateur radio close ties exist between the two countries. Previously having an economy based upon agriculture, the post-war period has seen a major change towards industrialisation. Other sources of income are in the sale of postage stamps and the fact that the country is one of the business world's favourite income-tax havens. Like Switzerland, Liechtenstein remained neutral in World War 2 (as it had in WW1). After Germany's defeat in 1945, Nazi sympathisers who had supported incorporation of the principality into the Third Reich were prosecuted and sentenced.

Being so small and, in a way, isolated, few non-Europeans know of the country's existence. The writer visited Liechtenstein just after the war's end and confesses to have known only of the country's issue of postage stamps which, at that time, were much in demand by philatelists. Women's rights to vote were introduced as recently as 1983 whilst a referendum in December '85 rejected the notion of incorporating equality between the sexes into the country's constitution.

HE1CE

The first indication of Liechtenstein as a DX country was an ARRL listing printed in the periodical *Radio* in January 1937. Although Switzerland is listed under the HB prefix, no separate one appears after Liechtenstein. In early DX listings the practice of listing countries without prefix was not uncommon since at that time there was great debate over what exactly constituted a DX "country". As amateur activity in countries such as Liechtenstein, Aden, Libya and Syria increased so these demanded DX country status sometimes long before the ITU was prepared (or ready) to allocate them an official callsign prefix.

The first amateur radio activity from Liechtenstein occurred shortly before the outbreak of World War 2 when Swiss amateurs used the HB1 prefix in place of HB9 for portable operation. In the October 1939 edition of QST we read that Liechtenstein is "closely allied to Switzerland and since it is under Swiss radio regulations Swiss amateurs can operate portable there".

The first listing of a Liechtenstein prefix came in 1938 when *QST*, in its June edition, listed the ITU prefix allocation HEA-HEZ. This new allocation does not seem to have been associated specifically with Liechtenstein. The official ITU listing under Switzerland once more indicates the very close relationship between the two countries. They both share the same national society viz Union Schweizerischer Kurzwellen Amateure (Union of Swiss Shortwave Amateurs). However, they do have separate licensing administrations. It was as late as February 1947 that we saw separate DX country listings complete with allocated prefix. In that month *QST* published its "Official List for ARRL DX Contest and the Post-War DXCC". Liechtenstein was listed followed by the prefix HE1. The QSL shown, HE1CE was for a QSO between Frank Bech HB9CE operating portable in Liechtenstein in December 1947, and VK3BZ operated by the late Morrie Morris of Parkdale. This QSL would be one of the earliest for a QSO with Liechtenstein. The WIA Collection also contains the QSL of HB9EO operating in Liechtenstein as HE1SO in September 1949. Today the old HE prefix is being used by Swiss shortwave listeners.

HE9LAA

In its May 1951 edition, *QST*, it was reported that Liechtenstein was using the HE9L prefix in lieu of HE1. This was incorrect information. Actually Swiss stations portable in Liechtenstein were still using their call followed by the prefix HE, eg HB1MX/HE operated from Liechtenstein in November '54. The HE9L prefix referred to was being used by Liechtenstein nationals. *QST*, in its June '55 edition, reported this fact, adding that HE9LAA seemed to be the only one operating. The QSL shown is from the operator of that station and was sent to station G3HDA operated by Mike Bazley (now VK6HD) in January 1952. The WIA Collection also contains QSLs of HE9LAC, another Liechtensteiner who operated in the 1950s.

In the mid 1950s, another change in the Liechtenstein prefix took place. Swiss portable stations in Liechtenstein started using an HB1 call followed by the letters FL rather than the letters HE. For example, HB9ZJ operated in September '57 as HB1ZJ/FL. The writer's first CW QSO with Liechtenstein in early 1962 was with the station HB1ZT/FL. (Home call HB9ZT). The use of such a prefix led to some confusion, many DX stations believing they had contacted an African station.

The November 1957 edition of *QST* pointed out that "HB1 stations with /FL appendages are **not** operating portable in French Somaliland, fellows. It's a devastatingly ambiguous designator for Swiss visitors to Liechtenstein". Few radio amateurs at the time (unless they were German speaking) realised that FL was the abbreviation for Fuerstentum Liechtenstein (Principality of Liechtenstein).

HB0GJ

In 1965, DX country listings started to show the newly allocated prefix prefix HB0 for Liechtenstein. Although regarded as fairly rare in the early post-war period, a considerable increase in the number of DXpeditions by other than Swiss nationals in recent years has reduced the demand for activation from Liechtenstein. Swiss nationals such as HB9GJ continued to use the HB0 prefix (HB0GJ), whilst other nationals such as YT3AM used the form HB0/YT3AM. Considerable activity in the 1970s and '80s by a few Liechtensteiners themselves, especially Frank HB0NL, Werner HB0BFN, Hugo HB0LL and Rene HB0BLC, lowered markedly Liechtenstein's place in the most-wanted DX countries list during that period.

Author's note

It would be greatly appreciated if radio amateurs throughout Australia could donate a few of their hard-earned QSL cards to the WIA Collection. We have developed an excellent QSL collection of pre-war, rare DX, pictorial and special-issue cards over the past few years as a record of DX activity, but we need to keep things going. All QSLs are very welcome. Please contact the author, Hon Curator VK3TL Ken Matchett, 4 Sunrise Hill Rd, Montrose 3765. Telephone (03) 728 5350 for any details of parcel post or rail transport (costs refunded). We need your help.

Thanks

The WIA would like to thank the following for their kind donation of QSL cards towards the Collection:

Alan VK5ZN
Mike VK6HD
Frank VK2QL
Ken VK5IT
Arthur VK3VQ
Len VK3LK
Roy VK6BO
Bob VK5QJ via Ray VK5RK
Paul 3B8AD.

Also thanks to George Le Grand, widower of Phyl VK4CPL, for the thoughtful donation of Phyl's fine collection of QSL cards. **ar**

OVER TO YOU

All letters from members will be considered for publication but must be less than 300 words. The WIA accepts no responsibility for opinions expressed by correspondents.

Nostalgic Memory of an Early Era

On Sunday 19 January I was reading VE2RO in QSO with VK2DQR who told the VE that he was using a three-tube TRF receiver home-brew, and the transmitter used a 6L6 in the final.

He remarked that many old timers had rigs like this. It was great fun, but parts were getting hard to get. He was a new ham, but liked old gear. VE2RO remarked he had used a similar rig from 1935 until 1947.

How many old timers can remember their old gear? At the moment I am in the process of building a pre-war Jones ultra gainer receiver.

Clarry Castle VK5KL
29 Turnbull Rd
Enfield 5085

Clear for Takeoff?

Radio amateurs are certainly quick to point out the facts when other fields of endeavour loosely describe us as "CBers" or question our competence. It is indeed a rare event when we need a correction. Nevertheless, the aviation fraternity would not be amused to read page 26 of last August's *AR*, where an aircraft "was cleared for takeoff from the Mount Gambier airport by Civil Aviation's Flight Service Centre in Adelaide." Mount Gambier airport doesn't require takeoff clearances, and even if it did, Flight Service aren't the people who give them. It's a pity that such a worthy story started off on the wrong foot. It would be good if, when checking articles like this for publication in *AR*, an aviation-literate person could proof-read the drafts to make sure the flying bit is as accurate as the radio bits. (Okay, I'll volunteer if nobody else does).

Otherwise, the magazine is excellent. Please keep up the good work.

Gareth Davey VK2ANF
PO Box 1367
Dee Why 2099

Subs and CPI

In regard to the cost of WIA membership and *AR*, I feel I must contradict the statement made by the editor in the January issue of *AR* that it has been Executive policy not to increase the fees in excess of the CPI.

My records show that I paid $25 in 1985, $38 for 1989, and now $58 for 1992. The overall increase amounts to 13 percent per year, and 15 percent per year between 1989 and 1992. These figures are well and truly in excess of the increase in living costs.

I still pay my subscription, although my pension income has nowhere near increased at the rate of the subscription fee. How long I can keep it up I don't know, much as I appreciate *AR* and the efforts of the WIA on behalf of its members.

George Cranby VK3GI
PO Box 22
Woodend 3442

(Actually subs rose by less than CPI each year until 1990. It was then necessary to raise them well above CPI in a "one-off" jump, or the WIA would have "gone broke". — Ed)

SILENT KEYS

DUE TO INCREASING SPACE DEMANDS OBITUARIES MUST BE NO LONGER THAN 200 WORDS.

The WIA regrets to announce the recent passing of:

R B (Beauch)	Digby	VK2GK
R L (Lindsay)	Douglas	VK2ON
R N (Noel)	Jackson	VK3CNJ
H (Harry)	Fuller	VK3HF
C A (Christopher)	Pearce	VK3KEP
A T (Alf)	Goeby	VK4AAG
M G H	Rowe	VK4YR
R (Bob)	Stancliffe	VK5VG
H R (Ross)	Dowsett	VK6RD
B	Brown	VK6RR

Ross Dowsett VK6RD

Ross passed away suddenly on 10 January after 40 years of amateur radio activity.

Ross, who was married with three children, first became interested in radio as a schoolboy when he built his first crystal set.

When the Second World War started, Ross volunteered for the Army, where he became Sergeant Armourer.

In this capacity, Ross re-designed the mechanism on a heavy-calibre weapon which had the habit of jamming. This re-design was incorporated into the future manufacture of this very popular weapon, and no doubt saved many lives as a result.

Ross's interest in radio during the war never wavered, and he regularly went into enemy lines with another army mate and radio enthusiast Tom Allen, and together they stole radio parts from the Japanese.

Ross eventually was wounded by shrapnel and was repatriated to Heidelberg Hospital in Melbourne.

Ross first became licensed in 1952 and built most of his equipment from parts which he managed to bring back from New Guinea.

When the Scout jamborees were commenced, Ross became involved and had been running the yearly Scout jamboree at Gill Creek, Albany, for the past 15 years.

Ross was one of life's quiet achievers and will be sadly missed by all who knew him.

JOHN DOWSETT VK6UD

R B Digby VK2GK (ex)

Beauch died 11 January, three days short of his 80th birthday. He was first licensed in the 1930s. He was an officer in 2/1 Battalion 6th Division and, after North African service, was captured in Crete. After WW2 he maintained his service interest, and rose to Lieut-Colonel in the CMF. At age about 40 he undertook the E&C course at North Sydney Technical College and was a Senior Technical Officer with AWA until retirement.

He moved to Cooranbong, NSW, a few years ago, but by then his health was failing and he was too sick and too weary to unpack his gear and set up a new station. He let his callsign lapse and donated his equipment to the local radio club when he moved to the ex-Servicemen's home at Bolton Point, NSW.

We were related; he was my XYL's brother-in-law. I remember him as an upright and generous man with a great love for our hobby.

W A EASTERLING VK4BBL

R L Douglas VK2ON

Lindsay died on 1 January. I first met him in 1941 when he was a Junior RMO at Prince Alfred Hospital, Sydney. He joked that if the war hadn't curtailed his amateur activities he'd probably never have got through medicine. He served in RAAF Medical and, after the war, as a GP at Dapto, NSW, before specialising in ophthalmology.

He lived at Gosford, NSW, where he practised. He wrote several articles for *AR*. He pushed the Commonwealth Government for FM broadcasting and, after the experimental station on 90MHz was set up at North Sydney, described a suitable rhombic antenna in *AR*.

Our first QSO was on 40 metres in 1950, and the next on two metres 20 years later. He and his XYL visited me last year, and he looked okay; not that much older than me, and his death was an unpleasant surprise.

W A EASTERLING VK4BBL

Harold S Fuller VK3HF

Harold was a member of the Amateur Radio Old Timers' Club. I have known Harry for the past 19 years and consider him to have been a remarkable man in the field of radio.

In the mid-1920s he was the radio operator on the General Australia McKay Aerial Survey expedition, of which he told me many stories. He is the third recorded European to climb Ayers Rock. He made a wire recorder (on display in the Science Museum, Melbourne) in the 1940s, the first in Australia. He was chief engineer and manager (for a short time) of 3YB Warrnambool.

G A TONZING

Noel Jackson VK3CNJ

Noel was a member of the Eastern and Mountain District Radio Club.

He started his early life on a poultry farm and answered the call to arms during World War Two. He quickly established himself as a "Mr Fixit", and in all ways was a very practical person. He was active in his church and his Army Association.

To me he was "BP, a silent achiever" who, when he saw a need, went about making good the fault. His willingness to give his time in repairing toys and radios endeared him to many young people, including his grandchildren.

In mid-life Noel qualified as an electronics instructor, and spent 12 years at RMIT, which he claimed were amongst the happiest of his working life.

Noel encouraged members of his family to study for their amateur licences, and he had regular skeds with his two sons.

To Noel's wife Joy VK3PJJ, sons Peter VK3KPJ and Philip VK3PDJ, Frank and daughter Esther, we express our deepest sympathies.

GEOFF ATKINSON VK3YFA

It is always a very sad occasion when one's close friends pass away. Often fellow amateurs are asked to help in the disposal of radio equipment, thus taking a lot of the worry from the family of the deceased. As well as equipment there is frequently considerable• quantities of paperwork such as notes, logbooks and periodicals. Frequently too, there is a box or two of QSL cards that have been received over the years. More often the not these are consigned to the local tip. There would be little doubt that the deceased would have preferred that some use could have been found for such cards. Fortunately there is a use and this lies in the building up of the WIA's own QSL Collection as an historic record of amateur radio, of which DXing is an important part.

If you are called upon to help with a deceased amateur's estate would you spare a thought towards saving such QSLs from destruction? Please contact the Hon Curator of the WIA QSL Collection Ken Matchett VK3TL, at 4 Sunrise Hill Rd, Montrose 3765, or telephone (03) 728.5350 for details of parcel post or rail dispatch (costs refunded). Your help would be greatly appreciated.

This space could be earning you money! Advertising rates available from PO Box 300, Caulfield South, 3162.

Fig 4

HF PREDICTIONS

ROGER HARRISON VK2ZTB
GENEROUSLY SUPPLIED BY THE APOGEE GROUP FREE TO THE WIA

Solar Cycle 22 is now definitely on the wane having gone through a what appears to have been a "double-humped" maxima, first peaking in late 1989, dipping in the last quarter of 1990, then peaking again (albeit, a slightly lower `peak') in the last quarter of 1991. The solar cycle last exhibited a double-humped maxima back in 1947, 44 years ago, when I had my first birthday.

The forecast yearly-smoothed sunspot number for March, used to generate this month's predictions, is 100. The actual yearly-smoothed sunspot number was last at this value back in May 1988. Solar cycle 20 peaked in 1970 at just over 100. The bands aren't dead yet, by a long way!

The Tables Explained

The tables provide estimates of **signal strength** for each hour of the UTC day for the five bands from 14 to 28MHz. The UTC hour is the first column, the second column lists the predicted MUF (maximum usable frequency), the third column the signal strength in dB relative to 1uV (dBU) at the MUF. The fourth column lists the "frequency of optimum travail" (FOT), or the optimum working frequency, as it is more generally known. The signal strengths are all shown in dB relative to a reference of 1uV in 50 Ohms at the receiver antenna input. The table below relates these figures to the amateur S-point `standard' where S9 is 50 uV at the receiver's input and the S-meter scale is 6dB/S-point.

µV in 50 Ohms	S-points	dB(µV)
50.00	S9	34
25.00	S8	28
12.50	S7	22
6.25	S6	16
3.12	S5	10
1.56	S4	4
0.78	S3	-2
0.39	S2	-8
0.2	S1	-14

The tables are generated by the Graph-DX program, assuming 100 W transmit power output, modest beam antennas (eg three-element Yagi or cubical quad) and a short-term forecast of the sunspot number. Actual solar and geomagnetic activity will affect results observed.

The three regions cover stations within the following areas:

VK EAST. The major part of NSW and Queensland.

VK SOUTH. Southern-NSW, VK3, VK5 and VK7.

VK WEST. The south-west of West Australia.

Likewise, the overseas terminals cover substantial regions; eg "Europe" covers most of western Europe and the UK. Graph-DX is written in the C language and runs on any IBM PC AT/XT or compatible computer with EGA, Hercules or VGA adapter and screen. Professional and Amateur versions are available. Enquires to FT Promotions, PO Box 306, Woollahra NSW 2025.

VK EAST - MEDITERRANEAN

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	15.2	3	11.6	1	4	0	-8	-19
2	14.3	-4	10.8	-5	0	-2	-10	-20
3	18.1	-1	13.6	-13	-1	1	-2	-8
4	25.3	4	19.4	-23	-3	2	4	3
5	32.1	6	25.0	-31	-6	2	7	8
6	33.1	7	27.1	-33	-7	2	7	9
7	32.5	7	26.4	-31	-6	3	7	9
8	31.1	7	25.0	-25	-3	5	8	9
9	29.3	9	24.7	-15	2	8	10	9
10	27.5	10	21.8	-4	9	12	12	9
11	25.3	13	20.1	7	15	16	13	9
12	23.4	15	18.6	16	20	18	13	7
13	22.4	19	17.7	26	25	21	14	6
14	21.4	22	17.0	33	28	22	14	4
15	20.4	24	16.2	36	29	22	12	1
16	19.2	25	15.1	36	28	20	9	-3
17	18.3	26	14.2	36	27	18	6	-7
18	17.0	27	13.1	35	24	14	0	-14
19	15.4	29	11.9	32	20	8	-7	-24
20	15.5	29	11.9	32	20	9	-6	-24
21	18.4	26	14.5	35	26	18	6	-7
22	18.3	23	14.2	29	23	16	6	-6
23	17.0	17	13.1	19	16	10	0	-11
24	18.1	12	13.9	10	12	9	1	-8

VK STH - MEDITERRANEAN

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	15.6	8	12.0	7	7	2	-7	-19
2	14.5	0	11.0	-1	2	-2	-10	-22
3	18.5	1	14.6	-9	1	2	-1	-8
4	26.1	5	20.1	-20	-1	4	6	4
5	30.1	6	25.2	-28	-5	3	6	6
6	29.9	5	24.7	-30	-7	1	5	6
7	29.8	5	24.4	-30	-7	1	5	6
8	29.2	5	23.6	-27	-5	2	6	6
9	28.0	6	22.4	-20	1	5	7	6
10	26.1	7	20.6	-10	4	8	8	5
11	23.8	9	18.8	0	9	11	8	3
12	21.4	12	16.9	10	14	12	7	0
13	19.0	16	15.0	19	17	12	3	-8
14	17.6	20	13.9	26	19	11	-1	-15
15	16.4	24	13.0	29	19	9	-5	-22
16	15.5	25	12.2	29	17	5	-11	-29
17	14.9	27	11.7	29	15	3	-14	-34
18	14.3	28	11.1	28	13	0	-19	...
19	13.6	28	10.5	26	10	-4	-24	...
20	12.9	29	9.9	24	7	-8	-30	...
21	13.8	28	10.5	27	11	3	-22	...
22	16.5	24	12.4	29	19	9	-5	-22
23	18.5	21	14.3	26	22	16	6	-5
24	19.0	16	14.6	18	17	12	4	-6

VK WEST - MEDITERRANEAN

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	14.2	14	10.9	14	7	-3	-17	-35
2	13.3	5	10.1	5	1	-7	-21	-38
3	16.8	4	13.3	0	4	1	-6	-17
4	23.6	6	18.2	-8	4	7	5	1
5	29.1	7	22.1	-16	1	7	9	7
6	29.4	6	24.6	-20	0	6	8	7
7	29.3	6	23.9	-21	-1	5	7	7
8	29.2	6	23.9	-20	-1	5	8	7
9	28.6	7	23.2	-17	0	6	8	7
10	27.4	7	22.0	-11	4	8	9	6
11	25.7	9	21.7	-1	9	11	10	6
12	23.8	12	18.9	9	15	14	10	4
13	21.8	15	17.3	20	20	16	9	0
14	19.8	19	15.7	28	23	16	6	-5
15	18.8	22	14.9	32	24	15	3	-10
16	17.9	23	14.2	33	23	13	0	-15
17	17.0	25	13.5	32	21	11	-4	-20
18	16.2	26	12.7	32	19	8	-8	-26
19	15.5	26	12.1	30	17	4	-12	-31
20	14.5	27	11.2	28	13	0	-19	...
21	13.4	28	10.3	25	8	-7	-28	...
22	13.8	28	10.5	26	10	-4	-25	...
23	16.4	25	12.9	31	19	8	-7	-25
24	16.3	22	12.6	26	18	8	-5	-20

VK EAST - EUROPE L.P.

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	14.4	2	9.6	2	3	0	-9	-20
2	14.0	5	9.5	5	5	0	-10	-23
3	13.9	8	9.6	8	6	0	-11	-25
4	13.2	11	9.2	11	6	-2	-16	-31
5	12.3	15	8.7	14	4	-6	-22	...
6	12.8	22	9.2	19	8	-4	-21	...
7	15.1	24	11.0	26	16	6	-8	-24
8	19.2	21	14.0	29	23	16	7	-4
9	18.5	18	14.2	20	19	15	7	-2
10	17.4	12	13.3	9	11	9	2	-6
11	17.1	5	13.5	0	5	3	-2	-10
12	15.9	-2	12.5	-7	0	0	-5	-13
13	14.9	-9	11.8	-12	-2	-2	-6	-14
14	14.3	-14	11.2	-15	-4	-3	-7	-14
15	13.6	-19	10.5	-15	-4	-3	7	-14
16	13.0	-22	9.9	-15	-4	-4	-8	-15
17	12.3	-31	9.3	-18	-8	-7	-12	-20
18	13.2	-21	9.9	-15	-4	-4	-7	-15
19	15.6	-12	12.3	19	-6	-3	-5	-11
20	20.0	-3	15.2	-24	-6	-1	-1	-4
21	20.6	0	14.0	-20	-4	0	0	-3
22	17.8	-1	12.0	-12	-1	0	-2	-8
23	16.1	-1	10.9	-6	1	0	-4	-12
24	15.0	0	10.1	-1	2	0	-7	-17

VK STH - EUROPE L.P.

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	13.4	-2	9.2	0	1	-4	-13	-26
2	13.1	2	9.1	3	1	-5	-16	-31
3	12.9	6	9.1	6	2	-6	-19	-35
4	12.2	9	8.7	9	1	-9	-25	...
5	11.5	13	8.3	10	-1	-14	-33	...
6	12.0	20	8.8	15	2	-12	-32	...
7	13.9	24	10.3	23	11	-1	-19	-38
8	17.4	20	12.9	26	19	10	-1	-14
9	19.9	18	13.8	24	21	15	6	-3
10	17.7	14	12.2	16	14	8	-1	-12
11	15.9	9	11.0	8	7	3	-6	-18
12	14.8	1	10.1	0	2	-1	-10	-21
13	13.8	-6	9.6	-5	0	-3	-11	-21
14	13.2	-13	9.1	-8	-2	-4	-11	-21
15	12.4	-19	8.7	-10	-3	-4	-11	-20
16	11.9	-35	8.4	-19	-11	-12	-18	-29
17	11.4	...	8.2	-28	-18	-19	-27	-38
18	12.4	-35	9.0	-22	-12	-12	-17	-27
19	14.5	-16	9.9	-18	-5	-4	-6	-13
20	18.1	-8	13.4	-24	-8	-3	-4	-8
21	19.1	-5	13.3	-24	-7	-2	-2	-6
22	16.6	-7	11.5	-16	-4	-2	-5	-11
23	15.1	-7	10.4	-10	-2	-2	-7	-15
24	14.0	-5	9.6	-5	0	-3	-10	-21

VK WEST - EUROPE L.P.

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	12.9	-12	9.0	-8	-4	-7	-14	-25
2	12.6	-10	8.8	-5	-3	-7	-17	-29
3	12.4	-6	8.8	-2	-2	-8	-19	-33
4	11.7	-3	8.5	0	-3	-11	-24	...
5	11.1	-1	8.1	2	-4	-14	-30	...
6	11.5	5	8.5	5	-3	-13	-30	...
7	13.3	10	10.0	9	3	-6	-20	-37
8	16.4	13	12.3	15	11	4	-7	-20
9	19.8	14	14.8	18	16	11	3	-6
10	21.2	14	14.9	18	17	14	7	0
11	16.8	10	13.0	9	9	5	-2	-12
12	15.7	3	11.8	0	3	0	-6	-16
13	15.8	-2	10.7	-6	0	-2	-8	-17
14	14.6	-10	9.8	-11	-4	-5	-10	19
15	13.6	-16	9.3	14	-5	-6	-11	-19
16	13.0	-22	8.8	-15	-6	-6	-11	-19
17	12.3	-36	8.4	-23	-13	-13	-18	-27
18	11.8	...	8.2	-28	-17	-18	-24	-34
19	11.3	...	8.0	-34	-22	-23	-30	...
20	12.2	...	8.8	-26	-15	-15	-20	-29
21	14.3	-19	9.6	-20	-8	-6	-9	-15
22	16.0	-13	11.2	-22	-8	-6	-8	-13
23	14.5	-15	10.1	-17	-6	-5	-9	-17
24	13.4	-15	9.3	-12	-5	-6	-12	-21

APOGEE ARTS

VK EAST - AFRICA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	14.0	7	10.2	7	4	-3	-16	-32
2	15.7	6	12.1	4	6	3	-5	-15
3	15.3	1	11.7	-1	3	0	-6	-16
4	18.1	2	13.7	-6	2	3	-1	-8
5	23.6	5	18.1	-13	1	5	4	1
6	25.5	4	18.7	-15	0	4	4	1
7	25.8	4	19.0	-15	0	4	5	2
8	25.7	5	18.9	-12	2	6	6	2
9	24.0	6	18.7	-7	5	7	5	1
10	22.0	7	17.3	0	7	8	4	-1
11	19.8	8	15.6	4	9	7	1	-6
12	17.6	10	13.9	10	10	6	-2	-13
13	16.2	13	12.8	14	11	4	-6	-20
14	15.1	19	11.9	20	12	3	-11	-27
15	14.2	24	11.2	24	12	0	-16	-36
16	13.6	27	10.6	25	11	-2	-20	...
17	13.0	28	10.1	24	9	-5	-25	...
18	12.4	30	9.5	23	7	-9	-31	...
19	11.8	31	8.9	22	4	-13	-37	...
20	12.6	30	8.7	24	7	-8	-30	...
21	12.0	28	8.3	21	3	-13	-36	...
22	11.5	21	8.1	15	0	-15	-38	...
23	11.0	14	7.8	10	-3	-17	-39	...
24	11.9	8	8.6	8	0	-11	-29	...

VK STH - AFRICA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	14.9	13	10.1	13	8	0	-13	-29
2	15.9	11	12.1	11	10	5	-4	-16
3	18.9	10	14.9	7	11	8	2	-6
4	24.7	8	18.2	1	10	11	8	3
5	26.1	7	19.3	-6	6	9	8	4
6	26.7	6	19.4	-9	[illegible]	8	7	4
7	26.8	6	19.3	-10	[illegible]	8	7	4
8	26.4	6	18.9	-8	5	8	7	4
9	25.8	7	18.2	-4	7	9	8	4
10	24.2	8	17.0	0	9	10	7	2
11	22.3	9	15.6	6	11	10	6	-1
12	20.0	11	13.9	11	13	9	2	-7
13	17.8	14	12.3	16	13	7	-3	-15
14	16.0	17	11.0	20	13	4	-9	-25
15	14.6	23	10.0	24	12	0	-17	-36
16	13.6	25	9.3	23	9	-5	-25	...
17	12.9	27	9.0	23	6	9	-30	...
18	12.0	29	8.5	21	2	-15	-39	...
19	11.7	30	8.3	20	0	-18	...	...
20	11.4	30	8.2	18	-1	-20	...	...
21	12.4	29	8.8	22	4	-12	-35	...
22	12.2	27	8.6	20	3	-13	-35	...
23	11.7	21	8.4	15	0	-15	-37	...
24	12.7	16	9.2	14	3	-9	-27	...

VK WEST - AFRICA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	13.5	19	10.3	18	8	-3	-20	-39
2	15.6	15	11.9	16	12	5	-7	-21
3	18.4	13	14.6	12	13	10	2	-7
4	24.1	12	18.7	6	14	14	11	5
5	27.7	8	20.8	-1	10	12	11	7
6	27.7	7	23.2	-5	7	10	10	6
7	27.6	7	22.9	-7	6	10	9	6
8	27.5	7	22.5	-6	6	10	9	6
9	27.1	7	21.9	-5	7	10	9	5
10	25.9	8	20.7	-1	9	11	9	4
11	24.2	10	20.5	5	12	12	9	3
12	22.1	12	17.5	12	15	13	7	-1
13	19.9	14	15.7	18	17	12	4	-6
14	17.7	19	14.0	24	18	10	-1	-15
15	16.3	24	12.8	29	18	8	-7	-24
16	15.2	26	12.0	29	16	4	-13	-31
17	14.3	28	11.3	28	14	0	-18	-39
18	13.7	29	10.8	27	12	-2	-22	...
19	13.1	30	10.2	26	9	-6	-27	...
20	12.5	30	9.6	24	6	-10	-33	...
21	11.9	31	9.1	22	3	-14	-38	...
22	12.8	30	9.7	25	8	-8	-30	...
23	13.6	29	10.4	27	12	-2	-21	...
24	12.8	25	9.8	21	7	-6	-27	...

VK EAST - ASIA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	32.8	13	27.1	5	17	20	20	18
2	32.3	12	25.9	3	15	19	19	17
3	32.5	12	24.9	2	15	18	19	17
4	32.8	13	27.3	3	16	19	19	17
5	33.6	13	27.8	6	18	21	21	19
6	34.4	14	27.9	11	21	23	23	21
7	33.1	15	26.6	17	24	25	24	21
8	31.5	16	26.5	28	30	29	26	21
9	30.2	20	24.1	45	40	36	30	23
10	28.4	20	22.7	45	40	35	28	20
11	27.0	21	21.5	45	39	33	26	17
12	26.3	21	20.9	46	39	33	25	16
13	25.6	22	20.3	45	38	32	23	14
14	24.5	22	19.6	44	37	30	21	11
15	22.7	23	17.9	43	34	27	16	5
16	21.3	23	16.7	41	32	23	12	0
17	19.5	24	15.2	39	28	18	5	-9
18	17.2	25	13.3	35	22	10	-6	-24
19	16.5	26	12.7	34	20	7	-10	-30
20	15.9	26	12.3	32	17	4	-15	-36
21	19.4	20	15.3	31	24	15	3	-10
22	27.6	16	21.5	22	25	24	20	14
23	31.4	14	25.2	14	22	23	22	18
24	31.7	13	25.8	9	19	21	20	17

VK STH - ASIA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	26.7	10	21.7	1	12	14	12	8
2	27.4	10	22.7	-1	10	13	12	8
3	27.7	10	23.4	-2	10	13	12	9
4	27.8	10	23.2	-1	10	13	12	9
5	27.6	10	22.8	0	12	14	13	9
6	27.4	11	22.4	4	14	15	14	9
7	26.8	12	21.7	10	17	17	15	10
8	25.6	14	20.5	18	21	20	15	8
9	23.9	19	18.9	35	30	25	16	7
10	21.9	20	17.4	37	30	22	12	0
11	19.9	21	15.8	36	26	17	4	-10
12	17.9	22	14.2	34	22	10	-5	-22
13	16.8	23	13.3	32	18	5	-12	-32
14	15.9	24	12.6	30	15	0	-19	...
15	15.1	24	11.9	27	11	-5	-26	...
16	14.5	24	11.4	25	7	-9	-32	...
17	13.9	24	10.8	23	4	-14	-38	...
18	13.1	25	10.1	20	-1	-21	...	...
19	12.2	25	9.4	15	-8	-31	...	...
20	12.8	25	9.8	18	-3	-24	...	...
21	15.2	22	11.5	25	10	-4	-24	...
22	19.7	13	15.2	17	16	10	0	-11
23	23.7	11	18.5	11	16	14	9	2
24	25.9	11	20.7	5	14	15	12	7

VK WEST - ASIA

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	30.5	13	24.4	10	19	21	19	16
2	31.0	13	25.2	6	17	19	19	16
3	31.4	13	26.0	4	16	19	19	16
4	31.5	13	25.1	3	15	18	18	16
5	31.7	13	26.4	4	16	19	19	17
6	32.6	14	26.9	7	18	21	20	18
7	33.4	14	27.4	11	20	23	22	20
8	32.8	15	26.6	17	24	25	24	20
9	31.4	16	25.3	26	29	28	25	21
10	29.8	20	25.0	45	40	36	29	22
11	28.2	20	22.5	45	40	34	27	20
12	26.3	21	20.9	45	38	32	24	15
13	24.6	21	19.5	44	37	30	20	10
14	23.7	22	18.8	44	36	28	18	8
15	22.9	22	18.1	43	34	26	16	5
16	21.8	22	17.4	42	32	24	13	0
17	20.5	23	16.1	40	30	20	7	-6
18	19.3	23	15.1	38	27	16	2	-13
19	17.8	23	13.9	35	22	11	-5	-23
20	16.0	24	12.4	31	16	1	-18	...
21	15.7	24	12.1	30	14	0	-20	...
22	18.6	22	14.7	34	23	13	-1	-17
23	24.2	15	18.8	22	23	20	14	6
24	28.6	14	22.6	15	21	22	19	14

VK EAST - STH PACIFIC

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	30.2	8	25.5	-17	1	7	10	9
2	27.8	9	22.1	-7	7	11	11	8
3	25.4	11	20.2	3	12	13	11	7
4	23.1	14	18.3	13	17	16	11	4
5	21.8	17	17.2	22	22	18	11	2
6	20.8	21	16.5	30	26	20	11	0
7	19.9	23	15.8	34	27	20	9	-2
8	18.7	25	14.7	35	26	18	6	-7
9	17.8	26	13.9	35	25	16	3	-11
10	16.2	28	12.5	33	21	10	-4	-21
11	14.2	29	10.9	29	15	2	-16	-36
12	14.0	29	10.7	29	14	1	-17	-38
13	17.1	27	13.5	35	24	14	0	-15
14	18.9	24	14.7	33	26	18	8	-4
15	16.5	20	12.7	22	17	9	-2	-15
16	17.4	14	13.4	14	13	8	0	-12
17	15.6	6	12.0	5	6	2	-7	-18
18	15.5	0	11.8	-2	2	0	-7	-17
19	18.3	0	13.9	-11	0	1	-2	-8
20	23.9	4	18.4	-21	-3	2	3	1
21	28.5	5	22.4	-28	-5	2	6	5
22	30.3	6	23.2	-31	-7	2	6	7
23	30.6	7	25.5	-30	-6	2	7	7
24	31.5	7	25.8	-26	-3	4	8	9

VK STH - STH PACIFIC

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	31.0	8	23.2	-17	1	8	10	10
2	29.7	10	23.6	-7	7	12	13	11
3	27.5	12	21.8	4	14	16	14	11
4	25.3	14	20.1	14	19	18	15	9
5	24.2	17	19.1	23	24	21	16	9
6	23.3	20	18.4	31	28	23	16	8
7	22.1	22	17.6	36	30	24	15	6
8	20.6	24	16.2	37	29	22	12	1
9	19.3	25	15.1	37	28	20	8	-4
10	17.2	27	13.4	35	24	14	1	-14
11	14.9	29	11.4	31	18	5	-11	-30
12	14.4	29	11.0	30	16	3	-14	-34
13	16.0	27	12.6	32	20	9	-6	-24
14	15.4	23	12.0	26	16	5	-10	-27
15	14.8	18	11.4	18	11	1	-13	-29
16	14.0	9	10.7	9	5	-2	-15	-31
17	13.2	0	10.0	2	1	-5	-17	-32
18	14.1	-4	10.6	-3	0	-3	-12	-24
19	16.8	-2	13.2	-10	-1	0	-5	-13
20	21.6	1	16.5	-19	-3	1	1	-2
21	26.1	4	20.3	-27	-6	1	4	3
22	29.0	5	23.0	-30	-7	1	5	5
23	30.1	5	24.4	-30	-6	2	6	6
24	30.8	6	25.6	-26	-4	4	8	8

VK WEST - STH PACIFIC

UTC	MUF	dBU	FOT	14.2	18.1	21.2	24.9	28.5
1	29.8	7	24.2	-29	-5	3	7	8
2	27.6	8	21.9	-21	0	6	8	8
3	25.0	9	19.8	-11	4	8	9	6
4	22.5	10	17.8	-1	9	11	9	4
5	21.1	13	16.7	7	14	13	9	2
6	20.1	16	15.9	15	18	15	9	0
7	19.2	20	15.2	23	21	17	8	-2
8	18.2	24	14.3	30	24	17	6	-5
9	17.5	27	13.6	34	25	17	5	-9
10	16.0	29	12.3	33	23	12	-1	-17
11	14.1	31	10.9	31	18	5	-12	-31
12	14.1	32	10.7	31	18	5	-12	-31
13	17.2	29	13.6	37	27	17	4	-10
14	16.8	26	13.3	32	23	14	1	-13
15	15.9	21	12.6	24	17	9	-3	-17
16	15.4	16	12.1	16	13	6	-5	-19
17	14.9	8	11.6	8	8	3	-7	-19
18	14.1	1	10.9	1	4	0	-9	-21
19	13.3	-7	10.2	-4	1	-2	-10	-21
20	14.2	-9	10.7	-9	0	-1	-7	-16
21	16.9	-5	13.3	-16	-2	0	-2	-8
22	21.9	1	16.8	-27	-6	0	1	0
23	26.3	4	20.5	-33	-9	0	4	4
24	28.9	6	23.1	-34	-9	0	5	6

VK EAST - USA CARIBBEAN

VK STH - USA/CARIBBEAN

VK WEST - USA/CARIBBEAN

APOGEE ARTS

HAMADS

TRADE ADS

●WEATHER FAX programs for IBM XT/ATs. RADFAX $35, is a high resolution shortwave weatherfax, morse & RTTY receiving program. Needs CGA, SSBhf radio & RADFAX decoder. Also RF2HERC, RF2EGA and RG2VGA, same as RADFAX2 but suitable for Hercules, EGA and VGA cards respectively. SATFAX $45, is a NOAA, Meteor and GMS weather satellite picture receiving program. Uses EGA or VGA modes. Needs EGA or VGA colour monitor and card & WEATHER FAX PC card, & 137MHz receiver. All programs are on 5.25" or 3.5" disks (state which) & documentation, add $3 postage. ONLY from M Delahunty, 42 Villiers St, New Farm Qld 4005. Ph (07) 35 82785.

●AMIDON FERROMAGNETIC CORES: For LF/HF/VHF/UHF applications. Send DL size SASE for data/price to RJ & US Imports, Box 431, Kiama NSW 2533 (no enquiries at office please ... 14 Boanyo Ave, Kiama). Agencies at: Geoff Wood Electronics, Sydney; Webb Electronics, Albury; Assoc TV Service, Hobart; Electronic Components, ACT, Truscott Electronics, Melbourne.

FOR SALE — ACT

● SATELLITE DIVERSITY RECEIVER system. AM, FM 2-channel 130-140MHz with combiner, signal calibrator in 6ft rack with 1kVa transformer, $400. TWO ELECTRAC AM, PM phase lock loop demodulators and combiner, 3.25MHz IF for above receiver, or use separately, also in 6ft rack, $200. MODEL 28 RO TTY in cabinet and spares, EC, $40. All complete with manuals. Neil VK1ZT QTHR (06) 286 3018.

FOR SALE — NSW

●YAESU MUSEN YO-100 monitor scope with all cables, $250. Serial #51-206362. QTHR VK2BKS Box 809, Young NSW.

● AVO MODEL 8MK IV multimeter, near new, $200. Used condition $110. WHEATSTONE BRIDGE Master Instruments, near new, $125. AVO Valve Tester MK IV, GC, $150. BWD CRO model 502, $130. VK2ZHS QTHR.

● DRAKE STATION COMPLETE T4XC — R4C — MS4 speaker power supply, EC and working order, manuals, spares, $700 firm. Also matching 6M equip. $150. See write-up articles *AR* Jan/Feb 1992. Max VK2GE (065) 855 732.

● SMORGASBORD of amateur radio gear ,test equipment and electronic paraphernalia at the Urunga radio convention this Easter, 18-19 April. VK2DMS.

FOR SALE — VIC

● DRAKE TR7 TRANSCEIVER, DRAKE heavy duty power supply, plus optional extras. COLLINS 30L1 linear amp, 8 spare tubes; HYGAIN 204BA 4-element 20m beam, 2 HAM2 rotators; HEATH monitorscope & PEP power/SWR meter; HEIL mike, test instruments; BENCHER paddle, keyer, textbooks etc. 60ft self-supporting SKYNEEDLE type tiltable mast. Bob VK3SK QTHR (03) 527 1861.

● TOWER 60ft crank-up telescopes down to 20ft with base plate and fittings, $400 ono. Ian VK3AYK QTHR (03) 428 5383 BH, (03) 523 9405 AH.

● YAESU FT101ZD mint cond, $750; YAESU FL2100B, not working, 1 valve out, $300; DICK SMITH high power 80m transverter, $100. VK3BAS John QTHR (057) 52 2056.

● YAESU FT230 2m FM xcvr 25 watts output, 2 VFOs, 10 memories, EC with book mounting bracket etc, $325. Ron VK3OM QTHR (059) 44 3019.

● RADIO TOWER 90ft Hills galv winch-up tilt-over type, complete with cables, turnbuckles etc. Ready to erect; can arrange freight, GC, $750. Rob VK3JE (060) 37 1262 or (03) 584 5737.

● RTTY AND CW SYSTEM includes Sinclair ZX spectrum computer modems, interface, power supplies, tape recorder, programs and manuals, in good working order, $250. VK3AVH (059) 84 3897.

● KENWOOD TS830S transceiver, serial #26001, with MC50 desk mike and manual. EC, $900. Jack QTHR (055) 66 5117.

● KENWOOD TS-120S 100W PEP SSB mobile HF transceiver with VFO-120 external VFO and workshop manual, $550. Chas VK3BRZ (052) 82 3167 AH.

FOR SALE — QLD

● YAESU FT7 converted for Yaesu FTV700 transverter, $450; YAESU FTV700 transverter, $150; YAESU 52MHz transverter module, $150; YAESU 144MHz transverter module, $150; handbooks, cables, 12V DC input. Excellent performer. Package price $675. Gordon VK4WF (07) 862 1239 or (07) 356 6638.

● DRAKE TR4C RV4C combo, VGC. Manuals, 300w 80-10, $500; KW E-Z match ATU, $120; CODEN HF ATU, $120. Box 793, Warwick 4370. VK4CMY.

● AOCP COURSE commencing 14 March 1992 at 9am, Townsville Amateur Radio Club, upstairs SES HQ, Green St, West End. Contact Peter Harding, (077) 73 3487 AH.

FOR SALE — WA

● KENWOOD TS680S HF100W 6m 10w, GC, mike & book, $1350. KENWOOD AT250 auto tuner, $375; ICOM 70cm 04AT/SE HH speaker/mic charger battery case, $225. VK7JWL/6 (09) 345 1404.

FOR SALE — TAS

● DAIWA 100W ANTENNA TUNER cross needle with WARC bands, $150; MFJ SWL receiver tuner 20dB preamp, $130 ono. Phil VK7PU (004) 31 3020.

WANTED — VIC

● NUMBER 19 ARMY RADIO SET in reasonable cond. Ian VK3AYK QTHR (03) 428 5383 BH, (03) 523 9405 AH.

● KENWOOD TS130V (low power version of TS130 series). VK3CCE QTHR (03) 509 1720.

● STEEL CASE to suit the TCA Navy Rx, type 16303, and a DUAL CRYSTAL in a glass (7 pin) envelope, type Marconi SR290 for the same receiver. Also receiver for spares. W Babb VK3AQB (03) 337 4902.

● WANTED URGENTLY BY COLLINS COLLECTOR KWM2A round emblem, pay up to $1300 for exc unit. Also 75S3C and 32S3A in EC. Pay up to $1000 ea. Bob VK3JE (060) 37 1262 or (03) 584 5737.

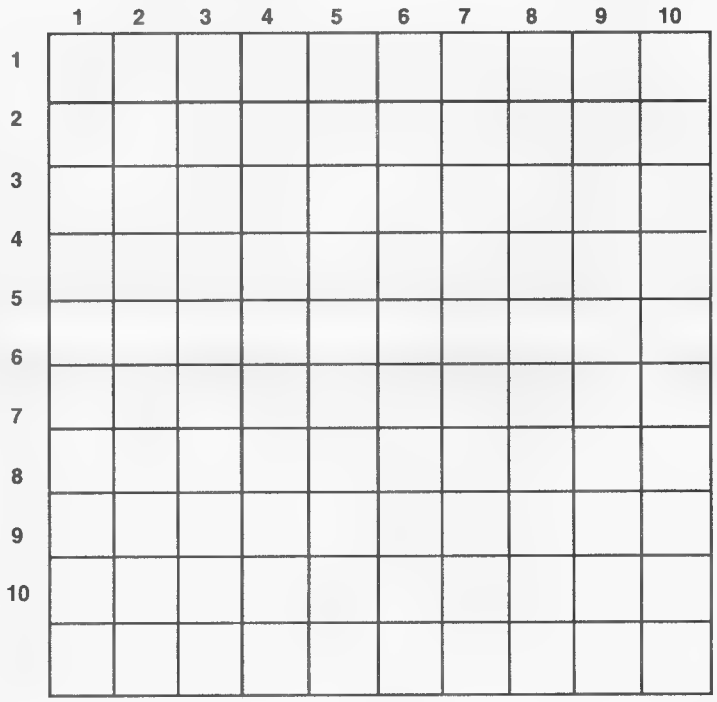
● KENT STRAIGHT HAND KEY GC. David VK3DNG East Kew. (03) 859 4698.

WANTED — QLD

● BEARCAT 300 scanner handbook and circuit. Will cover costs of photocopying. VK4NE QTHR.

Morseword No 60

Solution Page 56



Across:
1 Give medicine to
2 Clothing fastener
3 Peru capital
4 Shoot
5 Alcoholic drinks
6 Cabbage
7 Young Arnold
8 Dredge
9 South African money
10 Reach

Down:
1 Entrances
2 Tepid
3 Huge
4 Boyfriend
5 Hard of hearing
6 Arid
7 Fairs
8 Military vehicle
9 Roster
10 Handle

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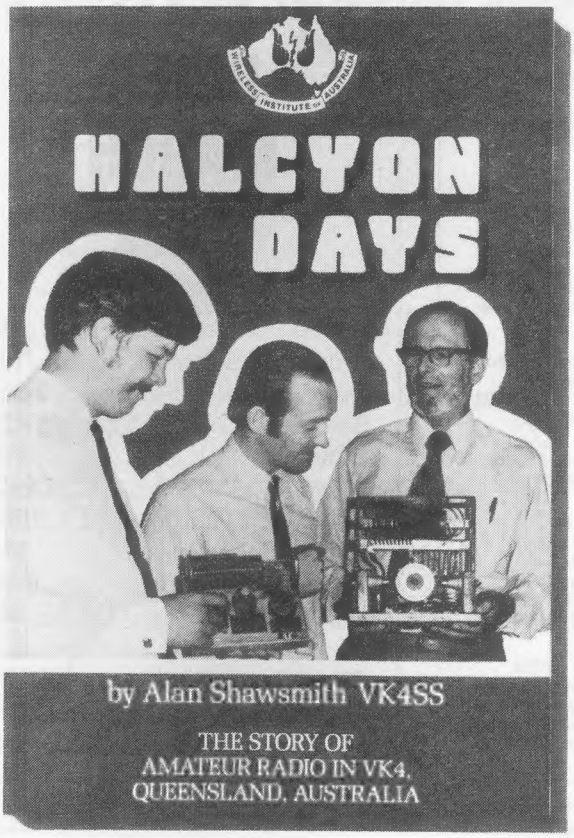

Halcyon Days

The Story of Amateur Radio in VK4, Queensland, Australia
Alan Shawsmith VK4SS
ISBN 0 9596161 6 0. Boolarong Publications, Brisbane, 1987
Subject: Amateur radio history in Queensland

Alan's important chronicle of VK4 amateur history was reviewed in *Amateur Radio* magazine of January 1988, so I will deal with it here only briefly. It is a worthy successor to *A History of Radio in South Australia, 1897-1977"* but, whereas that book included commercial activities, Alan deals exclusively with amateur history. He has excellent short biographies of many of the early VK4 amateurs, some with photos; information on radio clubs, and a useful but incomplete section on Australian wireless magazines. There is information on the activities of the WIA and the QRTL which complements my recent articles in *AR*.

***Halycon Days* is 178 pages in A5 size. Price was $12, and it may just still be available via the WIA, Queensland Division.**

VK2DYM
ar

Hamads

Please Note: If you are advertising items For Sale and Wanted please use a separate form for each. Include all details; eg Name, Address, Telephone Number (and STD code), on both forms. Please print copy for your Hamad as clearly as possible.
*Eight lines per issue free to all WIA members, ninth line for name and address Commercial rates apply for non—members. Please enclose a mailing label from this magazine with your Hamad.
*Deceased Estates: The full Hamad will appear in AR, even if the ad is not fully radio equipment.
*Copy typed or in block letters to PO Box 300, Caulfield South, Vic 3162, by the deadline as indicated on page 1 of each issue.
*QTHR means address is correct as set out in the WIA current Call Book.

*WIA policy recommends that Hamads include the serial number of all equipment offered for sale.
*Please enclose a self addressed stamped envelope if an acknowledgement is required that the Hamad has been received.
Ordinary Hamads submitted from members who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re—sold for merchandising purposes.
Conditions for commercial advertising are as follows: $25.00 for four lines, plus $2.25 per line (or part thereof) Minimum charge — $25.00 pre—payable.

State: .....

Not for publication: ❑ Miscellaneous ❑ For Sale ❑ Wanted

Name:..... Call Sign: ..... Address: .....

Solution to Morseword No 60

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	1	2	3	4	5	6	7	8	9	10
1	—	•	•	—	—	—	•	•	•	•
2	—	—	•	•	•	•	•	—	—	•
3	•	—	•	•	•	•	—	—	•	—
4	•	•	—	•	•	•	•	—	•	•
5	—	—	•	•	•	—	•	•	•	•
6	—	•	—	•	—	•	—	•	•	•
7	•	—	•	—	•	—	•	•	•	•
8	•	•	•	•	•	•	•	—	•	—
9	•	—	•	•	—	—	•	—	•	•
10	•	—	—	—	•	—	•	•	—	•

Across: 1 dose; 2 zip; 3 Lima; 4 fire; 5 gins; 6 kale; 7 Arnie; 8 sift; 9 rand; 10 attain.
Down: 1 gates; 2 warm; 3 vast; 4 beau; 5 deaf; 6 dry; 7 fetes; 8 jeep; 9 list; 10 feel.
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It is impossible for us to ensure the advertisements submitted for publication comply with the Trade Practices Act 1974. Therefore advertisers and advertising agents will appreciate the absolute need for themselves to ensure that, the provisions of the Act are complied with **strictly.**

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VK6	GPO Box F319 Perth WA 6001
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(see the WIA Division Directory on page 3 for the address of your Division)

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Antenna Impedance Matching - ARRL - 1989	BX257	$27.00
Antenna Note Book W1FB - ARRL - 1987	BX179	$18.00
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Practical Wire Antennas - RSGB	BX296	$25.20
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Smith Charts S/Scale 1 Set co-ord Imp/Admir Pack of 10	BX900	$6.10
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Transmission Line Transformers - ARRL 2nd edition	BX329	$36.00
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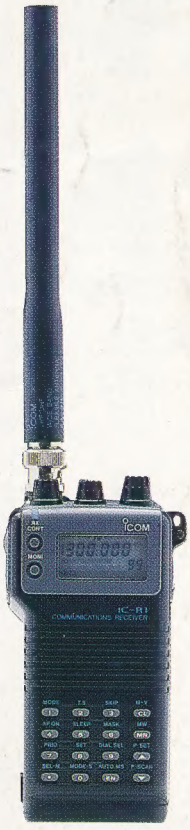

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